FOUNDED IN 1856

RAILWAY AGE

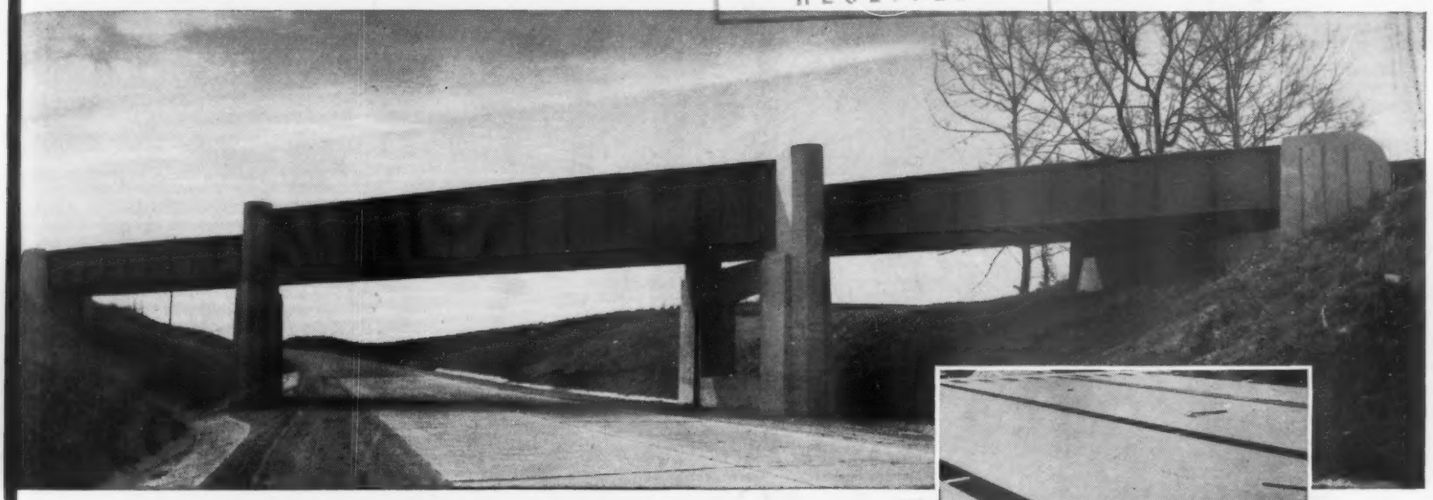
THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

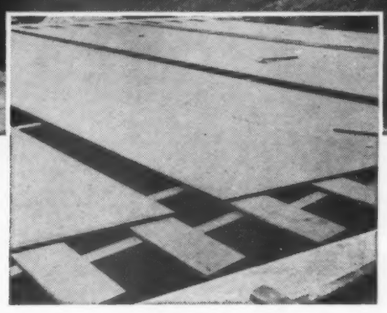
SEPTEMBER 24, 1951

SERVICE

SEP 26 1951

RECEIVED





BYERS WROUGHT IRON

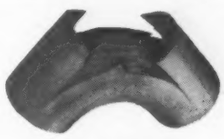
Ballast Deck Plates MINIMIZE MAINTENANCE on this P.R.R. Bridge

This attractive ballast deck bridge, spanning a highway at Queen Anne, Maryland, is another step forward in the eastern region bridge building program launched by the Pennsylvania Railroad some time ago. Aiming for maximum durability and minimum maintenance, the engineers followed sound practice by specifying genuine wrought iron for the deck plates. Byers Wrought Iron ½" plate was used. The bridge was built by George and Lynch; fabrication was handled by Phoenix Iron and Steel Company.

This type bridge, because of the saving in head room has won wide acceptance . . . but the design introduces a corrosion hazard that must be overcome if excessive repairs are to be avoided. Plates are subject to severe attack from coal and refrigerator car drippings and runoff water. The only practical protection is the use of a naturally resistive material. Byers Wrought Iron's proven resistance in this application is evidenced by the growing use of the material for this service.

You'll find some interesting and helpful information in our bulletin, WROUGHT IRON IN BRIDGE CONSTRUCTION. Write for a copy.

A. M. Byers Company, Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, San Francisco. Export Division: New York, N. Y.



WHY GENUINE WROUGHT IRON LASTS

This notch-fracture test specimen illustrates the unique fibrous structure of genuine wrought iron—which is responsible for the high corrosion resistance of the material. Tiny threads of glass-like silicate slag, distributed through the body of high-purity iron, halt and disperse corrosive attack, and discourage pitting and penetration. They also anchor the initial protective scale, which shields the underlying metal.

BYERS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

WROUGHT IRON

TUBULAR AND HOT ROLLED PRODUCTS

ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

MORE STEAM LOCOMOTIVES AND RAILROAD CARS IN THE U.S. ARE LUBRICATED WITH TEXACO THAN WITH ANY OTHER BRAND

Texaco Superheat Valve Oil WITHSTANDS HIGHEST TEMPERATURES

Especially designed for steam locomotive service, *Texaco Superheat Valve Oil* protects cylinders, pistons and valves under the highest superheat temperatures. It clings tenaciously to cylinder walls . . . and guards against wear even when high water causes a wet steam condition.

In addition, *Texaco Superheat Valve Oil* resists attacks from front-end smoke box gases during drifting . . . assures longer life for valves, rings, cylinder packings and piston heads. You can count on it to reduce your maintenance costs.

Another cost-saving lubricant is *Texaco 922 Grease.* Although soft enough to be applied by pressure gun, *Texaco 922 Grease* has extremely high load carrying capacity. Its super-tough films give long-lasting protection to valve motion bearings, crossheads, brake rod pins, spring rigging pins, and many other parts.

There are Texaco Railroad Lubricants to meet every need . . . and Texaco Systematic Engineering Service to assure you cost-saving, effective lubrication everywhere. Let a Texaco representative tell you about them. Just call the nearest Railway Sales office listed below or write The Texas Company, *Railway Sales Division,* 135 East 42nd Street, New York 17, N. Y.

LOCOMOTIVE LUBRICATION CHART

Large (59" x 38") detailed diagram of typical steam locomotive. Lists 1,051 parts, shows the proper Texaco lubricants to use. We shall be glad to send you a copy, without charge. Just tell us the name of your railroad and your position and title, please.

NEW YORK ★ CHICAGO ★ SAN FRANCISCO ★ ST. PAUL ★ ST. LOUIS ★ ATLANTA

TEXACO REG. T.M.

TEXACO Superheat VALVE OIL

The Rail Brace THAT STAYS TIGHT

Almost any rail brace will be tight when you first install it. But here's a brace that stays tight over the years—a brace so sturdy, so cleverly designed, that jolts, jars, and shocks can't work it loose. It's the Bethlehem No. 811.

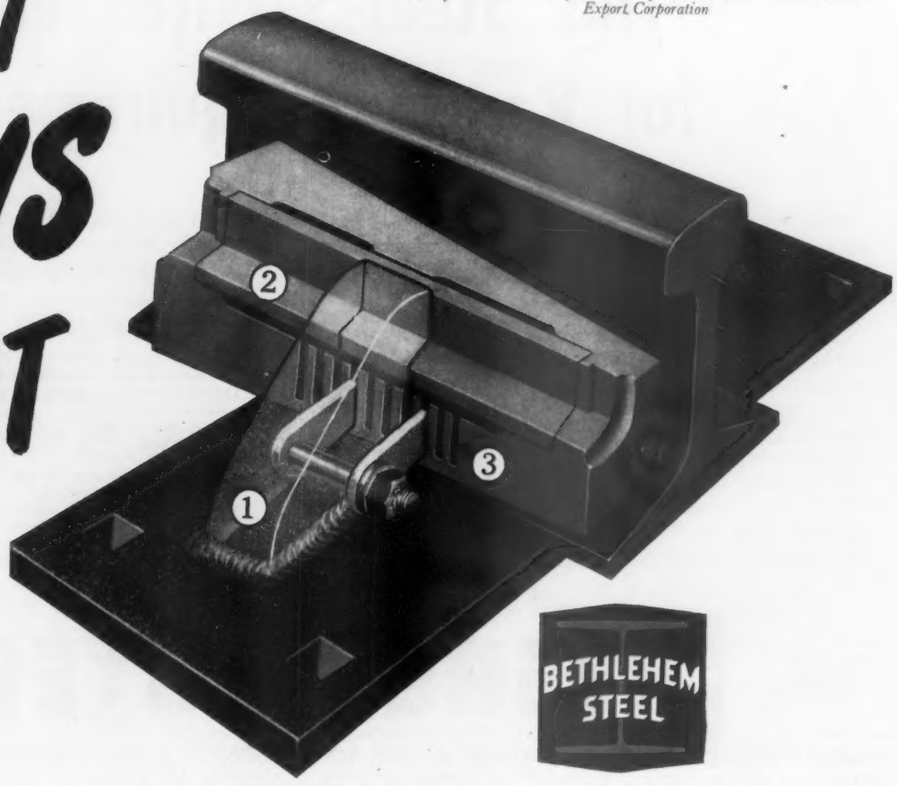
A study of the large illustration will show how effective the 811 is. To a special tie plate is welded a strong bracing part (1). Fitting between this part and the rail is a wedge, into which is swaged a steel spring (2). The spring withstands tremendous compressive force, and the farther the wedge is driven in, the tighter the fit. Moreover, the wedge can't possibly back out, for it's locked by pawls that engage a series of vertical slots (3).

Tight as it is, however, the 811 can easily be removed when track alterations make removal necessary. Merely raise the pawls, knock out the wedge, and pull the spikes—that's all there is to it.

Why not ask for full details? A Bethlehem man will be glad to call at your convenience.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation



This Steel-Service Team for Railway Requirements

Convenient to shops along the nation's rail lines from coast to coast, thirteen Ryerson steel-service plants stand ready to supply the railroads and their equipment manufacturers.

True, shortages resulting from the twin pressures of defense requirements and unprecedented civilian demand may make it impossible for us to furnish every item on every order, much as we would like to. But it is likely that most of your requirements are among the stainless carbon and alloy steels we have on hand for prompt shipment. And experienced Ryerson steel men are always glad to work with you—help you make the most of available steel.

From switchboard to shipping floor all of us are ready to give you prompt service whenever humanly possible. So call us for every steel need.

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CARBON STEEL BARS — Hot rolled and cold finished.
STRUCTURALS — Channels, angles, beams, etc.
PLATES—Many types including Inland 4-Way Safety Plate.
SHEETS—Hot and cold rolled, many types and coatings.
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ALLOYS — Hot rolled, cold finished, heat treated.
STAINLESS — Allegheny bars, plates, sheets, tubes, etc.
REINFORCING — Bars and accessories, spirals, wire mesh.
BABBITT—Glyco bearing metal, also Ryertex plastic bearings.
MACHINERY & TOOLS — For metal fabrication.

RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • CINCINNATI • CLEVELAND
DETROIT • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO

Vol. 131, No. 13 September 24, 1951

RAILWAY AGE

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Railway Age Railway Mechanical & Electrical Engineer Railway Engineering & Maintenance
Railway Signaling & Communications Car Builders' Cyclopedia Locomotive Cyclopedia
Railway Engineering & Maintenance Cyclopedia American Builder
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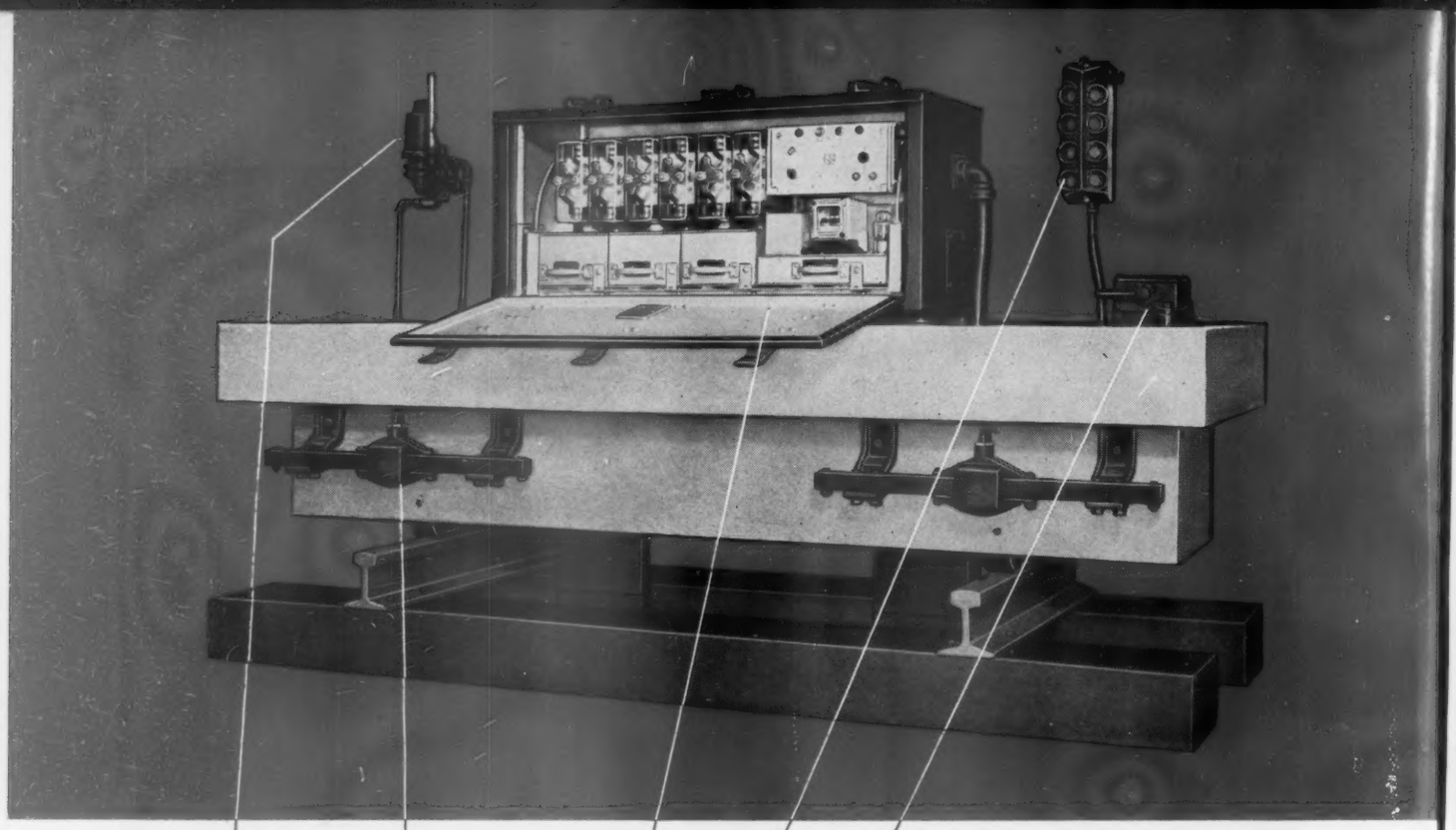


TYPE E Cab Signal System

ENGINE-CARRIED EQUIPMENT

RECEIVER

Picks up, by induction, electric impulses from the current in the rails . . . transmits them to the control equipment box.

CONTROL EQUIPMENT BOX

Consists of a filter, amplifier, decoding units, relays, etc., to filter, amplify and decode the impulses from the receiver for control of the cab signal and whistle.

CAB SIGNAL

In plain view of the engine crew, the cab signal continually indicates track conditions ahead by means of color-light or position-light aspects.

WHISTLE

Within hearing range of the engineman, the whistle sounds a warning whenever the cab signal changes to a more restrictive indication.

ACKNOWLEDGING SWITCH

Convenient to the engineman, the acknowledging switch provides a means for silencing the warning whistle.

"Union" Type E Cab Signal equipment can be furnished for two, three, or four-indication signaling. For full details write to any of our district offices.

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE CO.

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

CURRENT RAILWAY STATISTICS

Operating revenues, seven months	
1951	$ 5,852,688,158
1950	4,995,868,031
Operating expenses, seven months	
1951	$ 4,659,130,003
1950	3,933,258,106
Taxes, seven months	
1951	$ 643,599,245
1950	527,361,340
Net railway operating income, seven months	
1951	$ 430,439,242
1950	431,815,948
Net income, estimated, seven months	
1951	$ 272,000,000
1950	273,000,000
Average price railroad stocks	
September 18, 1951	55.20
September 19, 1950	48.52
Car loadings, revenue freight	
36 weeks, 1951	27,762,553
36 weeks, 1950	25,881,486
Average daily freight car surplus	
Week ended September 15, 1951	3,553
Week ended September 16, 1950	3,828
Average daily freight car shortage	
Week ended September 15, 1951	12,619
Week ended September 16, 1950	32,756
Freight cars delivered	
August 1951	7,183
August 1950	5,203
Freight cars on order	
September 1, 1951	139,104
September 1, 1950	86,156
Freight cars held for repairs	
August 1, 1951	101,001
August 1, 1950	129,097
Average number railroad employees	
Mid-July 1951	1,294,525
Mid-July 1950	1,247,987
Net Ton-Miles per Serviceable Car per Day	
June 1951 (preliminary)	1,035
June 1950	997

In This Issue . . .

CONVENTION DOINGS: With the annual fall convention season at its height last week, the bulk of this issue is devoted to accounts of the various meetings—the Coordinated Mechanical Associations on page 56; the Roadmasters' and Bridge & Building Associations on page 49; the A.A.R. Signal Section on page 47; and the Chicago "clinic" of the American Society of Traffic & Transportation on page 53. Another feature article, starting on page 38, is an abstract of a paper presented to the Locomotive Maintenance Officers' Association by F. K. Mitchell of the N.Y.C. on the important subject of planning for diesel-electric repair and maintenance facilities. Other feature articles deal with the Coast Line's program for reducing eye injuries (page 45), and with the Alaskan Railroad's apprentice training program (page 42).

WHAT'S GOING ON: Erie completes first full main-line installation of four-way radio-telephone communication—exactly 100 years, minus just a few days, after its origination of telegraphic train dispatching, commemorated at Harriman, N. Y., last Friday.—Erie engineers and management start aid fund for engineman of Czech "freedom train."—Lehigh Valley reaches 100 per cent dieselization.—Alvanley Johnston, former head of B.L.E., dies.—P.R.R., C.&O., begin experiments with new types of food service on trains.—Locomotive order backlog stands at 1,557 units as of September 1.—Faricy declares rail rate increases are "consequence, not cause" of inflation, and insignificant factor in commodity prices.—Norwich University to honor Grenville M. Dodge.—Loomis tells Bar Association government seizure is no guarantee of settlement of labor disputes.—Impact of higher costs revealed by fact that 96 out of 124 Class I roads had smaller N.R.O.I. in July 1951 than in July 1950, despite generally higher gross. (See tables of revenues and expenses, pages 20, 22, 24, 26.)—Carpi calls Ex Parte 175 rate increase "insufficient."

In Washington . . .

NEW PEAK IN CAPITAL SPENDING: Class I roads are definitely headed for a new all-time high (nearly $1,500 million) in expenditures for capital improvements, according to the latest "Monthly Comment" (page 33). But what they'll get in return for their record-breaking spending is less, the "Comment" says, than they have gotten for less money in other years when prices in general were lower than now. The "Comment" also contains some significant comparisons of rail and truck rates, which show that the alleged "cheapness" of truck transportation is an illusory thing—selective at best and certainly not general.

WEEK AT A GLANCE

HIGHLIGHTS: Five more roads get amortization certificates.—Thomas E. Bickers, secretary of National Mediation Board, dies.—Army Transportation Corps to buy railroad cars for all armed services.—Guy Otis Beale, C.&O. vice-president, heads N.P.A.'s Railroad Equipment Division.—Senate group takes wage case back to White House.—R.E.A. would cut parcel post weight limits.—Truckers would pass on to shippers new New York state highway use tax.

. . . And Elsewhere

TRUCKS ON RAILS?: A Chicagoan with 20 years experience in the motor truck industry is going into business as the rail-trailer company to act as an intermediary between railroads and truck lines in securing highway trailer movements on railroad flat cars, and as agent for handling terminal operations for these movements. It is his intention to make flat cars and tie-down equipment available to interested railroads on a lease basis.

PASSENGER DIESELS ON C. & O.: Since August 17 the Chesapeake & Ohio's "Sportsman," between Detroit and Charlottesville, and its "George Washington," between Cincinnati and Washington, have been hauled by four two-unit 4,500-hp. Electro-Motive diesel locomotives. The locomotives are part of the 107 units, including 27 for passenger service, ordered earlier this year (*Railway Age*, April 30, page 48, and May 14, page 108). By the end of 1951, when the remaining passenger units will have been delivered, about 85 per cent of passenger service on the road's Chesapeake district will be diesel hauled.

AIR TRAVEL: United Air Lines broke all records on August 20 when it flew 6,903,000 revenue passenger-miles within the 24-hour period. A general upsurge in defense traffic, civilian business and vacation travel was cited as the cause of the new traffic peak. The same factors, incidentally, are helping the air lines in general to achieve constantly higher levels of traffic and revenue.

MARKET PREFERS INDUSTRY: Stock market averages higher than at any time since the early 1930's have recently attracted wide attention. On September 14, the "industrials" scored 276 on the Dow-Jones scale—just 6 per cent below their 1930 peak. On the same day, railroad shares stood just a shade under 84.5—or only a little over half their 1930 peak of 158. Yet the railroads' gross business in 1951 is running almost twice as much as in 1930.

WHO'S GETTING THE STEEL? According to the American Iron & Steel Institute, railroads and their equipment manufacturers received nearly 3.2 million tons, or 8.1 per cent, of total steel shipments in the first half of 1951, an increase of over 1.1 million tons, or 56 per cent, from the first half of 1950. Most of this increase, the institute says, was for freight cars. But car shortages are uncomfortably high again and there is no certainty at this time that future steel allotments will be sufficient to permit construction of the necessary minimum of 10,000 new cars a month. In this situation, it is interesting to speculate on the blind display ad which appeared in the business opportunities section of a recent issue of the New York Times. A "multi-million dollar automotive body manufacturer," the ad says, requires truck bodies "in large quantities." It adds, in prominent type, "*The procurement of steel can be arranged if necessary.*" How? And from whom?

AFTER 50 YEARS and one month with the New York Central—one-quarter of that time as its manager of public relations—Clarence R. Dugan plans to retire on September 30. A brief sketch of his railroad career appears in the news pages, along with the announcement of Raymond F. Blosser's appointment as his successor, and of other changes in the Central's public relations department. Mr. Dugan, we understand, will live in Fountain Head Heights, Hagerstown, Md.—right next to a golf course, on which he expects to spend most of at least the next 25 years.

Loads Six Times More

Carbon Paper On Any Continuous Forms Writing Machine!

FREE TRIAL OF REPEAT-O-PAK FLOATING CARBON PAPER PROVES IT!

One set of Repeat-O-Paks equals *six* complete loadings of flat sheet carbon.

See for yourself how easily your operator can load at least a week's supply of carbon paper on your equipment — in less than five minutes!

You'll get as many as 7,000 forms from one set — and you'll eliminate the usual 25% flat sheet carbon paper waste.

Cleaner, easier-to-read copies. Slashes carbon paper costs and time-outs for loading and unloading.

That's why modern railway operators are turning to Repeat-O-Pak floating carbon paper as the most efficient means of making copies of their Way Bills, Expense Forms, in fact, any continuous form on their I.B.M. and Underwood billing machines. (It fits all continuous forms writing machines including typewriters equipped with special attachments!)

Write today for free trial supply. Enclose sample of forms and tell name of continuous forms machine. No obligation.

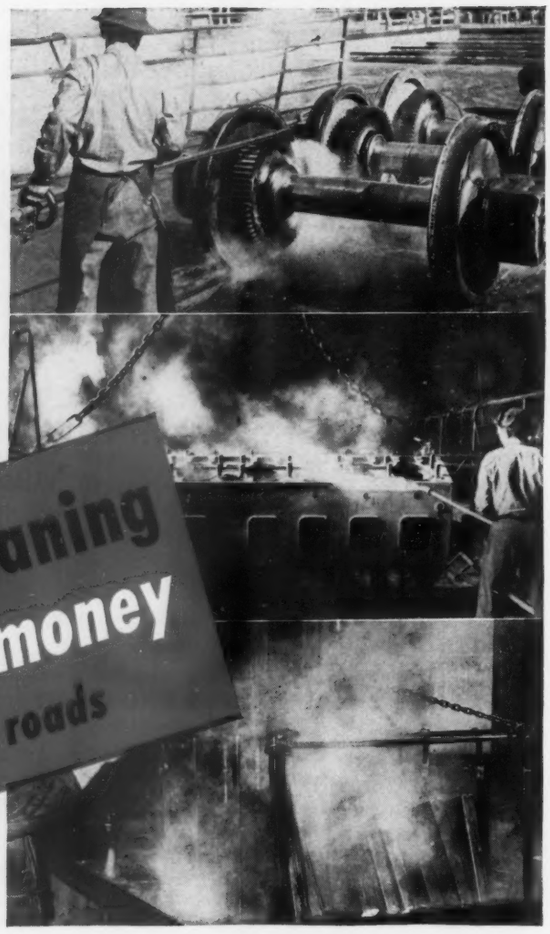
STANDARD MANIFOLD COMPANY

333 W. LAKE ST., CHICAGO, DEPT. A23-51

OFFICES IN PRINCIPAL CITIES

For additional information, use postcard on pages 75, 76

20 Jobs in DIESEL SHOPS and TERMINALS where Oakite Cleaning is saving money for many roads



AT the right, for example, are listed 20 of the many different types of work performed in Diesel-electric shops and terminals. It is on these jobs, in connection either with regular maintenance, overhaul or repair, that Oakite cleaning, washing and descaling materials and methods today are providing a tested, successful way to save money and time.

On each and all of these 20 jobs, Oakite Technical Service Representatives have accumulated a lot of solid knowledge and practical experience. It is this knowledge, experience and understanding of the chemistry of cleaning that enables them to submit recommendations which result in greater cleaning efficiency and economy in handling maintenance and overhaul operations.

Available across the nation, at practically every divisional point on your road, Oakite Service can be a valuable aid to any road seeking ways to cut costs. Put it to work for you as have 107 out of 125 Class I roads. Won't you write to us today?

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3 Lube Oil Filters
4 Lube Oil Coolers
5 Fuel Oil Filters
6 Suction Strainers
7 Diesel Cooling Systems
8 Flash Type Steam Generators
9 Pistons, Cylinder Liners
10 Engine Parts
11 Water and Oil Radiators
12 Engine Room, Cabs
13 Diesel Engine (Exterior)
14 Diesel Locomotive (Exterior)
15 Trucks, Frames
16 Brake Equipment
17 Traction Motors
18 Journal Boxes
19 Generators
20 Water and Fuel Pumps

OAKITE RAILWAY SERVICE DIVISION

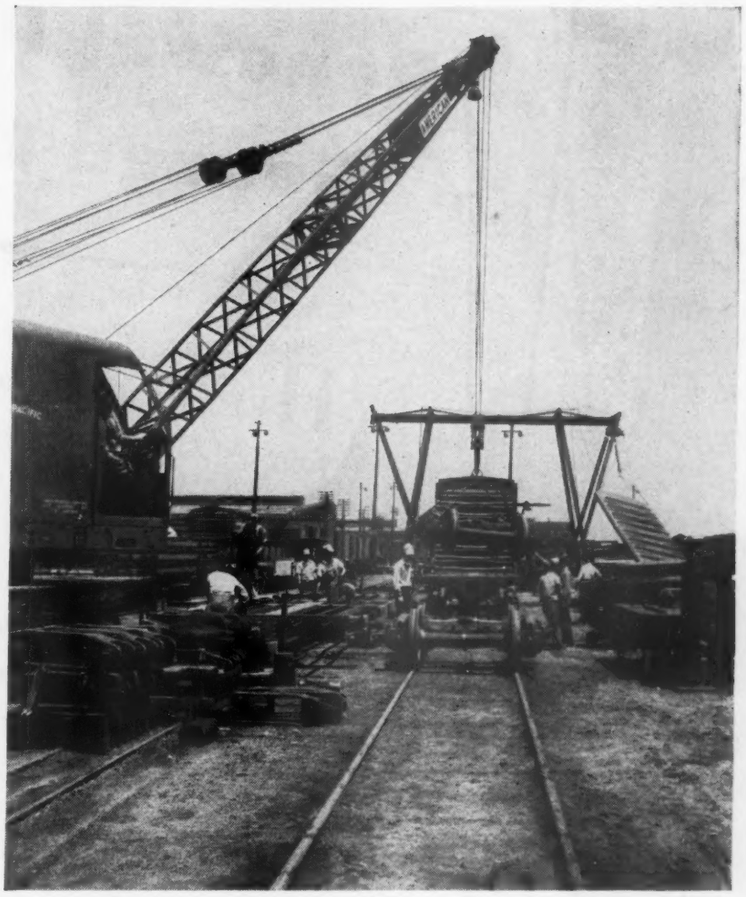
Trade Mark Reg. U. S. Pat. Off.

4500 cars coming up!

WANT TO learn some tricks about extra heavy assembly line work . . . and the handling of big sub-assemblies? Ask Union Pacific—now putting into service 4,500 new freight cars, built on its three assembly lines at Omaha, Grand Island, and Denver.

One of the neatest tricks seen in this big project is the ingenious use of American Locomotive Cranes. These fast, flexible machines pick up, swing and place a whole truck unit, a one-piece boxcar side or other big components with amazing speed and accuracy. In addition, of course, U.P. uses its fleet of American Locomotive Cranes for magnet handling of scrap; for unloading ties; for bridge work; for switching; and for dozens of other jobs.

The American line . . . world's largest selling family of locomotive cranes . . . offers gasoline, diesel or DiesELectric models, capacities from 25 to 80 tons. Mail the coupon for literature.



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COMPANY_____

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For additional information, use postcard on pages 75, 76

A Locomotive Renewal Parts Service Geared to the Times

HERE is a renewal parts service designed to keep your ALCO-GE locomotives on the road. This service guarantees the most efficient distribution of parts in an economy pressed by strategic material shortages. A nationwide distribution system, with six regional parts warehouses, assures you of swift service. Today—and in the days ahead—use this renewal parts service for your ALCO-GE locomotives.

parts AND service

HERE ARE ITS FEATURES

Parts Stocked to Your Needs—

Your renewal parts requirements dictate the type of stock inventories at the warehouse in your region. Managers of the six strategically-located warehouses have complete authority over the stocks carried in their region. These managers, together with sales specialists assigned to your road, team up to give you quick and thorough service.

Parts and Engineering Specialists at Your Call—

Warehouse stocks and engineering field service can be tailored to meet your railroad's requirements. Factory-trained parts and engineering specialists are ready to work directly with you, can help you analyze your parts needs and help you with your maintenance program.

Designed to Fit Your Warehousing Policy—

Because the keynote of this parts service is flexibility, it can be co-ordinated with your storekeeping system, assuring you of dependable, low-cost service.

31 Parts Service Centers—

To keep your ALCO-GE locomotives on the road, a nationwide staff is always ready to provide you with parts and engineering field service. There are six regional parts warehouses—in Schenectady, Atlanta, Chicago, Seattle, Los Angeles, and St. Louis—and 25 sales offices covering the railroad centers of the nation. Use them to keep your ALCO-GE locomotives rolling—and earning.

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and
GENERAL ELECTRIC

ASSURED DEPENDABILITY with

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for car lighting and air-conditioning

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AMPLE POWER for entire car lighting and air-conditioning loads . . . uniform voltage at proper values throughout run.

STEADY LIGHTS and COOL CARS—high sustained voltage that keeps lights bright and compressors running steadily even during long stops.

UNINTERRUPTED SERVICE—trouble-free performance—withstand vibration, shock, service variations and temperature difference.

LOW RATES OF DEPRECIATION—exceptionally long life.

EASE OF SERVICING . . . easy to add water and keep charged.

LOW COSTS of maintenance and repair.

ABILITY TO MEET ALL REQUIREMENTS of car design and electrical loads. They can be easily changed or recharged in yard . . . are safe, clean, quiet.

For *service-proved dependability*, equip *all* your passenger cars with Exide-Ironclad Batteries.

Exide-Ironclad Batteries are the Best Power Buy . . . AT ANY PRICE

THE ELECTRIC STORAGE BATTERY COMPANY
Philadelphia 2
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1888
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1951

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"Flexo-4's sure slam the lid on hot-box worries!"

National Flexo-4 journal lids are of malleable iron construction carefully designed to seal the front end of the box from dirt, and retain the oil. Each Flexo-4 lid offers 4 big advantages:

1. **LONG LIFE**—malleable iron construction resists corrosion, shock, distortion . . . lasts through the years.
2. **FLEXIBLE FIT**—spring controlled...compensates for variations and wear of journal-box mouth and hinge lug.
3. **TIGHT FIT**—keeps oil in and dirt and water out.
4. **POSITIVE OIL RETURN**—oil return ledge feeds oil into the box instead of letting it seep out of journal box . . . improves lubrication.

FOR ALL NEW CARS AND REPLACEMENTS, SPECIFY NATIONAL FLEXO-4 LIDS.
NATIONAL MALLEABLE AND STEEL CASTINGS COMPANY, CLEVELAND 6, OHIO.
A-3572

NATIONAL MALLEABLE and STEEL CASTINGS COMPANY
COUPLERS • TRUCKS • YOKES • DRAFT GEARS • JOURNAL BOXES AND LIDS

NATIONAL Products FOR TRANSPORTATION AND INDUSTRY
Est. 1868

use *genuine* BALDWIN DIESEL PARTS

BALDWIN DIESEL PISTONS are worth *more,* give far more wear. Their cylindrical-wearing characteristics reduce liner replacement costs, and eliminate the need for "oversizing." Mighty good reasons why it pays to always use Baldwin Diesel Pistons and other genuine Baldwin replacement parts. Seven conveniently located warehouses are geared to immediately handle your needs.

BALDWIN BLH LIMA-HAMILTON

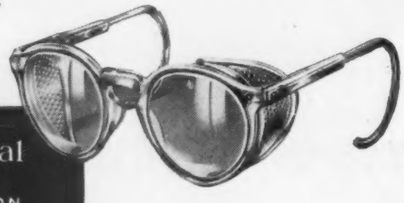
BALDWIN-LIMA-HAMILTON

PHILADELPHIA 42, PA. • OFFICES IN PRINCIPAL CITIES

Management and Labor BOTH agree that the High Cost of EYE ACCIDENTS Can be Cut—NOW!

Eye Accidents Cost $160,000,000 in LOST MAN HOURS*

In these days of accelerated production, what to do about other high costs may be debatable, but the wisdom of preventing eye accidents and their high costs is clearly apparent by simple arithmetic. A goggle representing an investment of about $2.30 can prevent a four figure claim . . . keep an experienced man on the job instead of a novice . . . protect the valuable machine he works on (as well as the man) . . . keep volume up and rejects down. Add the direct savings in medical care, first aid, and the indirect benefits of improved morale, and the case for an AO Eye Protection Program is overwhelming — particularly when the program can pay for itself in less than 6 months time! Ask your nearest AO Safety Representative for complete details.



*ESTIMATE. Does not include average cost of compensation which even for the low cost year of 1938 was $328.00.

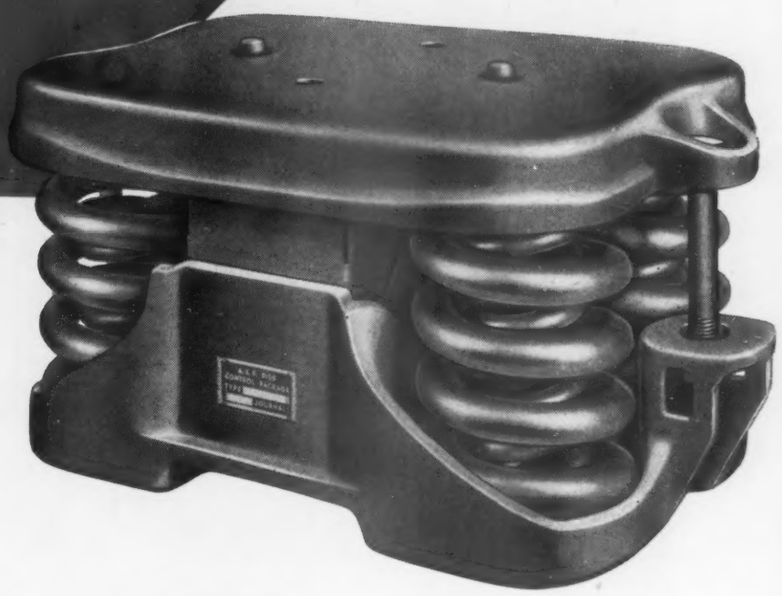
American Optical COMPANY
SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

THIS NEW and BETTER

A-S-F RIDE-CONTROL® PACKAGE

gives you greater strength
... integral friction surface
... simpler installation



The A-S-F Ride-Control Package has been redesigned and re-engineered to give you even longer life and simpler installation—in addition to all its well known features. Here are the changes:

Top and bottom plates have been completely redesigned for greater strength and longer service life. This results from A-S-F's program of constant product development and improvement.

Friction-surfaces are now built right into the lower plate, which is cast alloy steel with flame-hardened friction surfaces. Years of performance already prove beyond question that Ride-Control friction wear is negligible; friction plates do not require replacement; so friction surfaces are now integral with the bottom plate.

Installation has been simplified. In the old design, springs were held under compression by a bar, to be removed after installation to permit maximum spring travel. In the new Package, an ingenious arrangement holds the springs under compression. Small blocks mounted on a spring strip are set between bolt washers and the underside of the bottom plate. At the first pressure of car weight or the first service bump, the springy strip snaps these blocks out from between bolt washer and plate, permitting full floating spring travel. It's proof against forgetfulness!

GIVES OLD FREIGHT CARS AN EASIER RIDE

The new easy-to-install Ride-Control Package applies the famous A-S-F Ride-Control principle to existing freight cars. It gives 2½ to 3 inches of spring travel in place of the old AAR-standard 1⅜ to 1⅝ inches. Obviously the softer springs and longer travel, properly controlled, give an easier ride. The friction principle provides three-way control—lateral, longitudinal, and vertical. Load and friction springs combine to make the unit self-centering.

SAVES THESE THREE WAYS

Ride-Control saves much more than it costs. It helps protect lading and cut claims. It helps protect rolling stock and cut repair costs. It helps protect roadbed and cut track maintenance. The Ride-Control Package makes it possible to apply this three-way protection to your *present* rolling stock.

Why not start now to make these savings? Write for bulletins, or ask the A-S-F representative for details.

AMERICAN STEEL FOUNDRIES

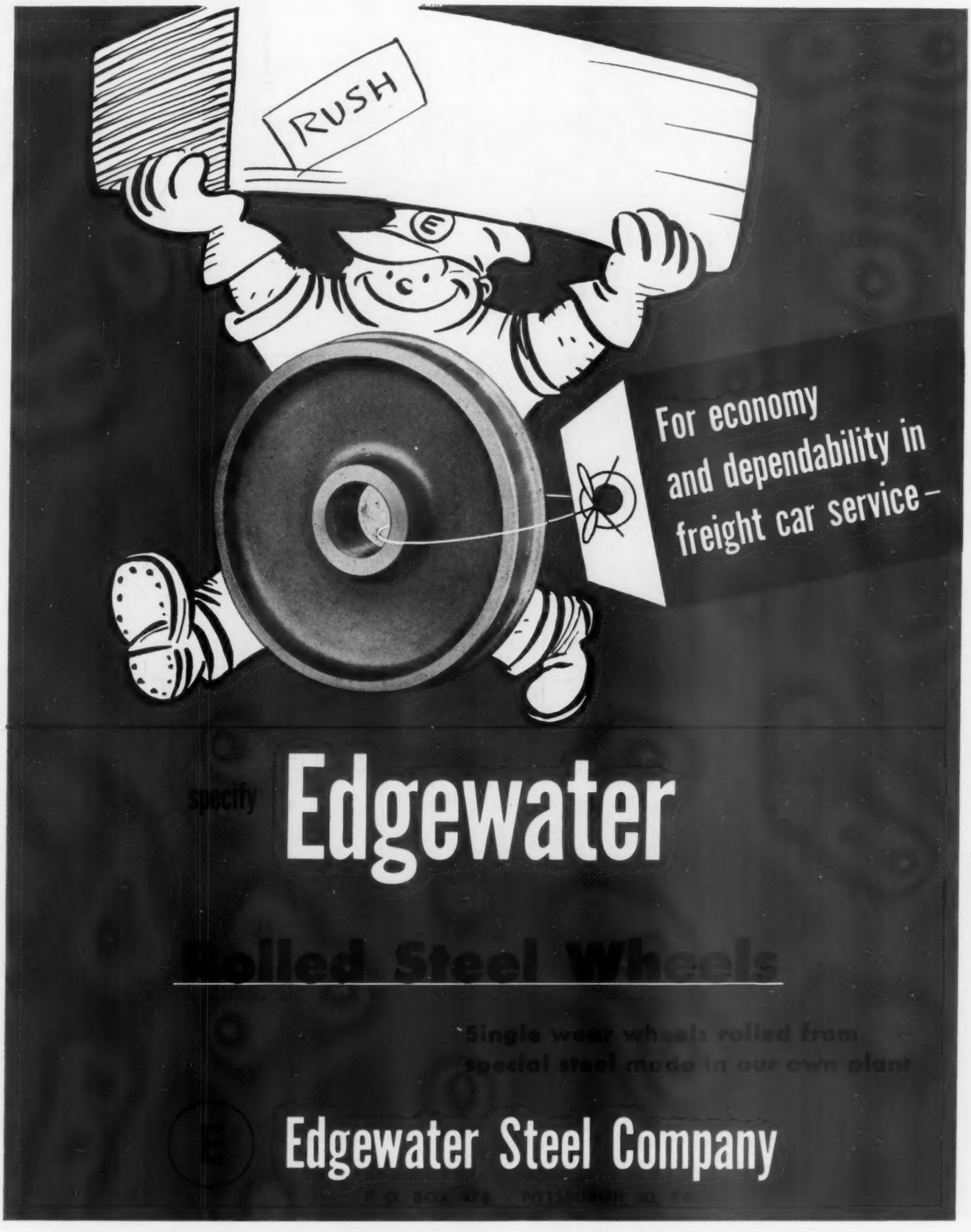
Mint Mark of ◯ Fine Products

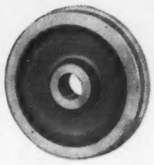
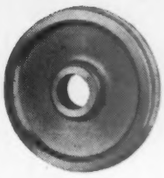
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income 1951	Net railway operating income 1950
Akron, Canton & Youngstown	July	171	449,304	195	463,794	76,360	51,527	31,453	142,137	330,037	71.2	133,757	58,666	59,922	86,300
	7 mos.	171	3,126,965	540	3,245,053	484,719	341,032	229,422	972,645	2,234,123	68.8	1,010,930	448,921	458,110	489,610
Atchison, Topeka & Santa Fe System	July	13,097	36,598,908	3,521,497	43,536,610	12,852,463	10,984,831	1,161,733	16,546,464	43,767,309	100.53	—230,699	691,607	—2,027,747	7,554,428
	7 mos.	13,096	267,351,648	28,757,143	320,884,609	55,237,732	64,304,351	8,064,920	108,294,333	249,400,029	77.72	71,484,580	41,584,087	27,063,334	34,100,041
Atlanta & St. Andrews Bay	July	82	287,815	2,721	297,056	28,463	19,314	7,745	63,676	132,086	44.5	164,970	89,250	49,905	44,914
	7 mos.	82	2,023,751	14,592	2,092,273	240,233	141,998	57,003	427,372	962,155	46.0	1,130,118	605,792	332,133	347,428
Atlanta & West Point	July	99	252,360	58,239	347,372	36,202	52,150	15,355	158,901	285,102	82.1	62,270	37,454	6,777	—4,812
	7 mos.	99	1,982,365	354,192	2,623,168	341,835	387,747	108,719	1,159,807	2,168,444	82.7	454,724	242,116	74,842	43,203
Western of Alabama	July	133	263,397	56,088	346,195	49,838	66,537	15,678	139,256	292,510	84.4	53,685	39,508	8,318	15,767
	7 mos.	133	2,152,203	344,689	2,699,521	393,319	435,601	110,897	1,002,213	2,101,254	77.8	598,267	334,483	206,362	130,719
Atlantic & Danville	July	205	118,751	.....	121,029	28,000	10,361	10,413	52,503	113,318	93.6	7,711	9,118	—17,892	—3,246
	7 mos.	205	991,759	.....	1,012,042	196,000	66,657	71,272	363,457	779,699	77.0	232,343	71,956	53,718	34,577
Atlantic Coast Line	July	5,453	9,415,676	1,555,188	11,713,327	2,225,702	2,805,913	326,620	4,678,574	10,602,085	90.5	1,111,242	775,000	189,989	108,466
	7 mos.	5,453	75,055,115	12,501,353	93,930,022	19,661,149	18,468,468	2,345,170	35,282,156	79,935,459	85.1	13,994,563	8,225,000	3,225,492	5,565,794
Charleston & Western Carolina	July	343	539,983	5,601	559,803	124,292	83,129	16,889	176,350	413,694	73.9	146,109	70,000	66,520	29,242
	7 mos.	343	3,668,507	62,527	3,829,586	964,921	562,501	118,477	1,178,942	2,912,464	76.1	917,122	425,000	410,672	298,060
Baltimore & Ohio	July	6,188	31,458,388	2,326,954	36,058,715	4,788,221	8,086,231	815,144	14,508,693	29,713,301	82.4	6,345,414	2,296,331	2,750,602	3,039,254
	7 mos.	6,188	225,694,943	14,911,770	255,564,376	33,639,527	58,339,593	5,821,311	103,709,575	211,791,134	82.9	43,773,242	17,434,258	19,624,079	19,028,703
Staten Island Rapid Transit	July	29	218,864	55,422	279,962	47,851	40,471	1,475	152,556	268,771	96.0	11,191	34,994	—42,760	—45,724
	7 mos.	29	1,612,525	343,927	1,994,537	363,120	266,552	10,113	1,017,113	1,857,148	93.1	137,389	248,955	—215,409	—322,000
Bangor & Aroostook	July	602	519,537	44,757	609,105	222,833	188,653	17,321	222,998	712,200	116.9	—103,095	Cr. 1,752	—28,637	21,909
	7 mos.	602	6,216,496	251,736	6,729,960	1,306,538	1,252,737	99,075	1,787,952	4,877,832	72.5	1,852,128	997,000	840,033	1,733,191
Bessemer & Lake Erie	July	212	2,986,546	858	3,012,217	284,875	841,702	18,745	571,669	1,806,958	60.0	1,205,259	873,600	531,180	768,100
	7 mos.	212	16,021,329	6,017	16,205,804	1,389,677	4,538,855	128,018	3,586,431	10,230,520	63.1	5,975,284	4,329,803	3,159,815	2,616,270
Boston & Maine	July	1,702	5,292,574	1,077,545	7,045,890	1,409,920	1,199,510	117,970	3,165,267	6,222,106	88.3	823,784	568,040	—58,799	522,734
	7 mos.	1,702	39,757,985	6,589,530	50,967,233	9,066,484	8,465,339	796,527	22,056,370	42,627,731	83.6	8,339,502	4,199,438	1,647,964	2,644,212
Cambria & Indiana	July	35	105,594	.....	105,631	15,138	81,563	143	25,257	127,824	121.0	—22,193	48,716	40,344	44,427
	7 mos.	35	927,269	.....	927,561	82,858	571,939	874	177,935	887,122	95.6	40,439	456,999	402,723	289,716
Canadian Pacific Lines in Maine	July	234	284,191	47,098	359,723	119,551	59,892	16,951	175,917	374,930	104.2	—15,207	27,562	—85,614	—83,828
	7 mos.	234	3,671,452	291,891	4,147,253	726,221	584,856	49,472	1,500,177	2,945,626	71.0	1,201,627	193,109	591,953	48,938
Canadian Pacific Lines in Vermont	July	90	201,174	9,721	229,990	54,677	25,081	5,801	118,869	212,013	92.2	17,977	13,074	—47,018	—65,634
	7 mos.	90	1,374,150	82,801	1,582,427	366,596	221,443	40,961	823,563	1,504,130	95.1	78,297	86,395	—392,745	—560,033
Central of Georgia	July	1,815	2,603,153	287,239	3,134,074	567,273	549,225	130,586	1,508,300	2,953,445	94.2	180,629	148,819	—4,500	—77,206
	7 mos.	1,815	21,577,775	1,905,316	25,334,896	4,656,755	4,284,442	849,603	11,165,601	22,326,708	88.1	3,008,188	1,781,847	727,105	424,277
Central of New Jersey	July	410	2,835,917	551,871	3,637,480	500,855	633,989	57,060	1,854,006	3,219,100	88.5	418,380	401,047	—337,731	—277,671
	7 mos.	410	19,866,133	3,323,194	24,909,503	3,337,142	4,340,208	391,888	13,052,591	22,285,281	89.5	2,624,222	2,784,864	—2,660,030	—2,546,595
Central of Pennsylvania	July	210	1,532,476	5,538	1,579,508	168,169	361,179	25,062	501,021	1,098,009	69.5	481,499	72,899	669,472	862,966
	7 mos.	210	10,700,968	44,990	11,022,659	1,177,140	2,639,169	177,082	3,524,426	7,803,989	70.8	3,218,670	527,498	4,718,983	5,520,364
Central of Vermont	July	422	869,000	82,000	1,021,000	232,433	179,868	16,891	418,502	885,777	86.8	135,223	44,945	43,354	163,912
	7 mos.	422	5,880,000	379,000	6,692,000	1,230,730	1,139,517	113,305	2,762,635	5,523,090	82.5	1,168,910	317,016	464,652	332,363
Chesapeake & Ohio	July	5,116	25,471,638	838,336	27,786,770	4,052,188	6,177,723	551,357	10,005,540	22,003,976	79.2	5,782,794	3,115,020	2,790,533	4,029,580
	7 mos.	5,116	188,395,090	5,259,073	202,533,309	27,366,353	41,210,764	3,915,007	69,225,269	149,867,813	74.0	52,665,496	30,454,229	24,393,101	24,549,997
Chicago & Eastern Illinois	July	886	2,160,547	331,753	2,712,314	395,087	447,926	112,295	1,027,477	2,135,304	78.7	577,010	256,500	226,494	337,950
	7 mos.	886	15,384,865	1,984,161	19,070,704	2,623,813	2,987,047	774,065	7,254,485	14,696,654	77.1	4,374,050	1,786,200	1,818,336	1,578,906
Chicago & Illinois Midland	July	130	626,125	232	648,154	106,645	167,506	25,538	213,377	553,372	85.4	94,782	41,298	65,476	97,304
	7 mos.	130	5,307,029	1,457	5,413,616	728,000	1,146,629	191,411	1,508,552	3,844,316	71.0	1,569,300	796,742	751,406	1,247,081
Chicago & North Western	July	7,895	12,831,942	2,255,262	16,669,159	2,914,890	3,398,691	371,982	8,029,961	15,612,654	93.7	1,056,505	1,091,675	—423,739	843,300
	7 mos.	7,915	89,324,147	12,834,807	113,663,918	18,283,981	22,399,794	2,364,424	54,680,678	103,423,694	91.0	10,240,224	7,435,100	184,726	—464,073
Chicago, Burlington & Quincy	July	8,822	16,475,815	1,900,003	20,448,362	4,195,793	3,190,175	438,640	7,693,201	16,352,358	80.0	4,096,004	2,245,189	1,464,965	22222,974
	7 mos.	8,822	123,510,460	10,547,586	147,570,521	22,276,510	22,472,239	3,142,003	53,845,266	107,059,106	72.5	40,511,415	21,657,975	15,164,967	13,160,254
Chicago Great Western	July	1,474	2,347,323	39,106	2,500,313	466,095	415,581	104,042	910,523	1,973,594	78.9	526,719	148,354	86,084	187,955
	7 mos.	1,474	18,270,410	208,731	19,551,734	3,168,779	2,872,253	708,423	6,606,206	13,933,983	71.3	5,617,751	1,766,048	1,731,552	1,804,928
Chicago, Indianapolis & Louisville	July	541	1,498,080	63,548	1,659,849	303,853	278,156	84,140	630,875	1,386,541	83.5	273,308	96,724	77,963	180,377
	7 mos.	541	10,851,004	547,337	12,131,568	2,128,623	1,976,600	609,249	4,363,255	9,763,013	80.5	2,368,555	861,890	786,858	928,879
Chicago, Milwaukee, St. Paul & Pacific	July	10,671	15,997,663	2,048,299	20,204,469	4,075,523	4,171,904	501,474	9,303,015	19,124,162	94.7	1,080,307	778,000	—219,261	1,569,588
	7 mos.	10,671	120,874,160	10,959,123	146,563,705	21,812,693	30,609,713	3,239,166	65,288,671	128,148,139	87.4	18,415,565	10,232,000	4,204,032	5,333,972
Chicago, Rock Island & Pacific	July	7,924	11,279,458	1,659,509	14,237,900	3,591,859	2,513,053	457,720	6,082,727	13,476,666	94.7	761,234	Cr. 64,083	—95,237	684,365
	7 mos.	7,925	92,925,593	11,780,496	114,154,161	16,127,812	18,211,559	3,298,294	45,239,095	88,562,074	77.6	25,592,087	10,916,417	8,489,363	8,457,995
Chicago, St. Paul, Minn. & Omaha	July	1,617	2,232,463	220,796	2,673,925	486,767	393,768	64,950	1,415,087	2,500,590	93.5	173,335	181,656	—203,631	157,138
	7 mos.	1,617	15,605,207	1,303,284	18,375,347	3,086,965	3,065,294	443,360	10,310,338	17,807,064	96.9	568,183	1,276,384	—1,924,331	—415,385
Clinchfield	July	317	1,621,255	1,917	1,634,184	270,989	306,207	37,647	394,007	1,041,605	63.7	592,579	190,361	568,362	615,839
	7 mos.	317	13,592,247	9,621	13,675,684	1,894,332	2,236,497	272,827	3,052,211	7,684,841	56.2	5,990,843	1,330,731	5,658,043	4,245,460

(Table continued on next left-hand page)



Makers of Freight Car  Passenger Car  and Diesel Locomotive Rolled Steel Wheels

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues: Freight	Operating revenues: Passenger	Operating revenues: Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Operating Expenses: Maintenance of Equipment	Operating Expenses: Traffic	Operating Expenses: Transportation	Operating Expenses: Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1951	Net railway operating income: 1950
Colorado & Southern	July	739	1,224,647	102,396	1,409,586	211,373	197,315	26,001	481,268	970,794	68.9	438,792	268,418	160,177	102,335
	7 mos.	739	7,613,051	588,390	8,862,056	1,098,551	1,423,682	186,791	3,357,650	6,452,755	72.8	2,409,301	1,468,734	737,360	508,250
Ft. Worth & Denver City	July	804	1,439,146	184,222	1,746,932	219,764	232,885	64,519	658,355	1,279,347	73.2	467,585	177,215	195,961	179,635
	7 mos.	804	9,627,725	1,101,207	11,716,431	1,679,823	1,705,076	375,311	4,501,810	8,915,934	76.1	2,800,497	962,230	1,047,396	1,566,477
Colorado & Wyoming	July	41	151,319	.....	286,140	30,475	26,908	1,164	118,490	189,380	66.1	96,760	63,302	32,193	23,252
	7 mos.	41	1,055,517	.....	1,916,470	438,916	201,465	8,422	838,200	1,569,591	81.9	346,879	167,522	167,671	175,233
Columbus & Greenville	July	168	137,199	234	143,277	44,648	37,495	3,401	47,630	149,772	104.5	—6,495	10,186	—12,054	—7,048
	7 mos.	168	1,153,936	—89	1,198,611	300,818	217,624	25,324	366,001	1,032,756	86.2	165,855	140,266	57,689	40,357
Delaware & Hudson	July	793	4,346,007	196,256	4,692,912	792,066	1,115,528	76,627	1,884,749	4,062,814	86.6	630,098	430,580	257,919	343,862
	7 mos.	793	31,801,900	1,036,967	33,790,637	4,543,308	7,145,578	550,859	12,956,242	26,581,593	78.7	7,209,044	4,200,951	3,319,825	2,598,254
Delaware, Lackawanna & Western	July	965	5,613,264	861,252	7,079,423	892,465	1,374,398	174,905	3,361,385	6,075,390	85.8	1,004,033	598,469	417,310	538,704
	7 mos.	966	41,247,587	5,617,111	50,984,299	5,727,723	9,790,062	1,167,866	23,449,637	41,958,571	82.3	9,025,728	5,420,420	3,561,073	3,967,117
Denver & Rio Grande Western	July	2,334	5,172,132	367,635	5,812,116	1,053,377	998,581	165,475	1,922,460	4,417,866	76.0	1,394,250	748,505	608,127	167,088
	7 mos.	2,341	37,783,343	2,066,509	41,407,633	5,684,242	7,480,867	1,155,100	13,576,311	29,807,701	72.0	11,599,932	6,054,590	5,568,932	3,153,169
Detroit & Mackinac	July	232	213,253	—6	221,058	45,000	22,363	3,810	43,209	126,772	57.3	94,286	51,105	33,654	54,835
	7 mos.	232	1,381,131	930	1,439,442	285,000	144,842	22,732	259,525	775,363	53.9	664,079	373,884	246,858	280,576
Detroit & Toledo Shore Line	July	50	527,864	.....	531,802	66,510	59,718	13,235	200,709	352,864	66.4	178,938	66,240	36,204	59,124
	7 mos.	50	4,430,508	.....	4,455,411	505,327	406,551	97,492	1,470,043	2,568,018	57.6	1,887,393	750,446	476,720	670,851
Detroit, Toledo & Ironton	July	464	1,373,341	421	1,439,520	228,764	249,566	26,479	418,967	974,536	67.7	464,984	224,501	214,453	112,246
	7 mos.	464	10,700,686	2,779	11,187,519	1,474,925	1,754,937	191,314	3,036,630	6,790,778	60.7	4,396,741	2,232,381	1,886,185	2,089,944
Duluth, Missabe & Iron Range	July	566	6,888,725	3,123	7,968,483	623,059	728,400	8,549	2,316,628	3,808,575	47.8	4,159,908	2,881,897	1,190,415	2,447,844
	7 mos.	565	25,273,328	11,261	29,015,049	4,350,203	4,873,569	60,600	10,004,663	19,929,911	68.7	9,085,138	6,546,574	2,701,542	2,927,362
Duluth South Shore & Atlantic	July	539	586,667	8,583	630,027	153,314	124,548	20,390	266,526	583,511	92.6	46,516	31,778	—46,696	41,082
	7 mos.	539	4,461,131	51,050	4,721,748	861,679	827,507	152,002	1,907,419	3,875,089	82.1	846,659	192,028	372,581	348,145
Duluth, Winnipeg & Pacific	July	175	365,000	1,400	371,800	77,919	72,450	4,807	157,042	319,067	85.8	52,733	30,225	—19,038	92
	7 mos.	175	3,030,000	7,100	3,076,600	491,056	452,291	32,281	1,286,363	2,308,693	75.0	767,907	234,037	185,591	34,711
Elgin, Joliet & Eastern	July	238	3,551,865	1	4,510,083	496,038	672,072	33,024	1,621,442	2,973,027	65.9	1,537,056	775,467	359,515	726,449
	7 mos.	238	24,972,299	44	31,475,026	2,950,036	4,646,688	219,826	11,242,427	20,093,881	63.8	11,381,145	5,268,583	2,446,174	5,365,583
Erie	July	2,243	11,974,471	660,028	13,849,414	2,316,417	2,487,068	342,372	6,152,128	11,969,123	86.4	1,880,291	494,741	865,386	1,338,019
	7 mos.	2,245	90,869,420	4,155,037	102,184,101	13,341,280	16,550,537	2,412,818	42,410,529	79,420,815	77.7	22,673,286	10,477,570	9,113,700	9,761,769
Florida East Coast	July	571	1,212,565	436,513	1,808,887	337,699	451,209	66,549	860,293	1,867,053	103.2	—58,166	Cr. 68,580	—51,628	—297,849
	7 mos.	571	12,974,606	4,413,472	19,034,800	2,378,715	3,109,745	483,640	7,167,455	14,394,077	75.6	4,640,723	1,103,537	2,386,941	1,853,849
Georgia Railroad	July	323	637,029	59,393	742,168	111,460	119,858	31,114	322,189	615,874	83.0	126,294	41,402	95,487	105,217
	7 mos.	323	4,786,658	419,067	5,549,314	846,625	856,509	216,151	2,216,560	4,383,835	79.0	1,165,479	269,578	966,580	687,097
Georgia & Florida	July	359	321,595	23	326,382	66,509	32,217	19,327	89,488	220,301	67.4	106,081	16,696	62,433	13,968
	7 mos.	359	2,010,516	120	2,050,761	567,366	228,708	128,551	600,904	1,614,965	78.7	435,796	114,718	167,137	—125,030
Grand Trunk Western	July	952	3,385,000	200,000	3,939,000	893,608	803,222	76,038	2,069,222	4,020,370	102.1	—81,370	297,170	—561,417	675,556
	7 mos.	964	29,545,000	1,382,000	33,531,000	4,984,279	6,188,228	511,595	14,561,354	27,406,635	81.7	6,124,365	2,024,175	2,586,091	4,121,330
Canadian Natl. Lines in New Engl.	July	172	165,000	20,000	210,000	71,691	53,564	2,693	148,932	295,906	140.9	—85,906	22,746	—149,159	—71,707
	7 mos.	172	1,298,000	57,100	1,613,000	390,240	337,110	18,944	946,893	1,815,024	112.5	—202,024	159,222	—654,726	—736,167
Great Northern	July	8,316	18,246,669	1,624,970	21,578,549	3,920,698	3,276,305	392,394	7,224,849	15,677,442	72.7	5,901,107	3,392,651	2,192,034	658,927
	7 mos.	8,316	117,467,012	7,985,294	135,160,046	25,239,598	23,904,366	2,643,517	49,214,333	106,472,196	78.8	28,687,850	18,057,245	8,981,342	—1,321,449
Green Bay & Western	July	224	290,115	.....	296,709	115,567	40,060	19,806	85,959	275,490	92.8	21,219	9,831	5,774	28,882
	7 mos.	224	2,337,322	.....	2,379,415	637,936	261,750	145,478	599,218	1,749,821	73.5	629,594	303,318	282,152	290,503
Gulf, Mobile & Ohio	July	2,898	5,927,023	454,205	6,896,715	1,265,314	1,389,864	249,616	2,101,886	5,318,811	77.1	1,577,904	710,251	513,579	807,730
	7 mos.	2,898	43,570,110	2,987,507	49,881,442	8,250,105	9,821,284	1,764,499	15,262,138	37,447,651	75.1	12,433,791	5,624,149	4,488,148	4,042,198
Illinois Terminal	July	462	832,887	80,599	1,050,002	155,419	153,208	38,364	453,558	852,102	81.2	197,900	98,739	70,162	99,808
	7 mos.	462	5,612,618	566,730	6,996,322	1,020,347	1,047,776	264,597	2,886,372	5,563,151	79.5	1,433,171	726,049	555,499	587,956
Illinois Central	July	6,539	18,811,875	1,894,667	22,786,411	4,144,917	3,742,177	489,902	8,602,361	17,988,403	78.9	4,798,008	2,775,026	1,534,027	2,488,259
	7 mos.	6,539	137,189,324	13,046,459	165,324,966	27,399,769	29,347,744	3,503,053	62,566,149	130,018,774	78.6	35,306,192	15,872,314	16,058,678	14,590,519
Kansas City Southern	July	891	2,991,631	133,091	3,328,665	359,566	465,926	84,655	1,040,438	2,064,741	62.0	1,263,924	592,000	486,621	646,355
	7 mos.	891	22,837,141	969,220	25,777,118	2,613,846	3,227,107	565,817	7,677,573	14,881,174	57.7	10,895,944	5,198,000	4,302,260	4,602,699
Kansas, Oklahoma & Gulf	July	327	466,009	622	471,157	100,163	33,799	20,173	118,492	293,871	62.4	177,286	83,369	72,875	117,040
	7 mos.	327	3,774,413	4,184	3,810,709	438,995	249,820	135,885	863,463	1,837,277	48.2	1,973,432	925,742	804,340	561,646
Lake Superior & Ishpeming	July	156	421,260	59	511,346	53,542	43,462	2,127	122,490	259,036	50.7	252,310	150,006	107,594	219,105
	7 mos.	156	1,828,949	204	2,181,325	358,501	343,684	13,939	643,649	1,455,157	66.7	726,168	532,714	280,026	267,983
Lehigh & Hudson River	July	96	254,619	.....	255,542	45,505	25,967	10,465	77,344	168,307	65.9	87,235	42,513	27,281	30,504
	7 mos.	96	1,889,015	.....	1,912,381	285,820	175,102	75,346	568,207	1,174,919	61.4	737,462	375,747	255,813	139,868
Lehigh & New England	July	188	699,961	.....	705,993	80,210	112,186	10,769	185,318	423,976	60.1	282,017	160,310	151,289	200,897
	7 mos.	190	4,852,340	.....	4,901,916	698,263	799,148	81,255	1,304,908	3,123,108	63.7	1,778,808	1,035,718	1,004,471	1,096,343
Lehigh Valley	July	1,223	5,608,678	356,558	6,232,440	839,356	1,489,139	135,585	2,604,642	5,315,302	85.3	917,138	389,208	422,737	741,850
	7 mos.	1,226	40,429,116	2,153,880	44,437,791	5,956,267	9,557,028	963,218	17,910,708	36,086,625	81.2	8,351,166	3,963,779	3,856,336	3,921,440
Long Island	July	365	1,248,720	3,676,376	5,184,520	609,664	846,919	12,351	2,444,421	4,102,001	79.1	1,082,519	411,921	387,023	554,809
	7 mos.	365	8,606,738	20,253,633	30,674,165	4,277,567	5,978,273	96,629	16,501,332	27,963,580	91.2	2,710,585	3,095,401	—2,302,576	—1,507,456

(Table continued on next left-hand page)

43 TIMES FARTHER with LUBRIKO GREASE

M-1 SPECIAL!

A.A.R. APPROVED FOR INTERCHANGE

SERVICE REPORT

DATE: 6-19-51

RAILROAD: [redacted]*

CAR #: 2925

RUN: Chicago and Los Angeles

BEARING TYPE: Timken

LUBRICANT: Lubriko M-1 Special

STARTED SERVICE: 3-12-51

MILEAGE: 108,000

FINDINGS: GREASE LEVEL: OK
ROLLERS: Well coated
GREASE TEXTURE: Good
GREASE COLOR: Good
CIRCULATION: Good
JOURNALS CHECKED: all

GREASE ADDED: None

REPORT BY: MMO

Passenger cars #2925 and #2930 on the [redacted]*, which makes a weekly round trip (4500 miles) between Chicago and Los Angeles, were test lubricated with LUBRIKO M-1 on March 12 of this year.

On June 19, after 108,000 miles of service, these cars were checked. No servicing was required—no additional lubrication was added.

Other cars (not LUBRIKO lubricated) in this same passenger train had to be lubricated every 2500 miles or, during the same period, 43 times.

Write today for LUBRIKO Railroad Case Histories!

* *Name on request.*

You are SAFE with LUBRIKO

THE MASTER LUBRICANT

THE TEST TELLS

MASTER LUBRICANTS COMPANY PHILADELPHIA, PA.

MANUFACTURERS OF HIGH-GRADE INDUSTRIAL LUBRICANTS FOR OVER 60 YEARS

LOS ANGELES • BOSTON • SAN FRANCISCO

Incorporated 1908 Established 1891

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1951	1950
Louisiana & Arkansas	July	756	1,838,200	63,401	1,971,131	387,457	216,180	68,915	570,240	1,312,327	66.6	658,804	337,440	209,614	343,222
	7 mos.	756	12,722,101	433,102	13,647,883	2,659,103	1,565,224	463,938	3,810,455	9,002,589	66.0	4,645,294	2,296,052	1,486,636	2,188,353
Louisville & Nashville	July	4,767	14,734,331	1,401,906	17,125,763	2,776,537	3,831,192	321,388	6,796,776	14,383,036	84.0	2,742,727	2,126,519	1,261,652	1,790,184
	7 mos.	4,777	111,272,275	8,554,515	127,154,632	18,555,141	27,230,789	2,248,377	49,186,434	101,761,726	80.0	25,392,906	18,244,533	10,905,463	11,110,481
Maine Central	July	981	1,670,837	184,739	1,999,859	455,287	359,783	15,194	739,733	1,644,761	82.2	355,098	201,318	136,227	163,357
	7 mos.	981	13,428,648	902,026	15,259,278	2,824,604	2,657,493	138,092	5,254,520	11,391,037	74.7	3,868,241	1,984,062	1,574,637	1,193,062
Midland Valley	July	334	182,914	3	185,886	61,490	19,258	3,953	63,827	155,153	83.5	30,733	18,609	5,471	9,178
	7 mos.	334	1,206,308	53	1,225,925	332,169	117,789	29,460	415,154	944,773	77.1	281,152	143,824	62,421	72,326
Minneapolis & St. Louis	July	1,406	1,573,072	24,615	1,649,824	290,539	267,820	121,608	553,451	1,339,491	81.2	310,333	168,368	80,300	176,861
	7 mos.	1,406	11,458,189	89,405	11,961,866	2,301,165	1,863,006	796,587	3,965,861	9,708,448	81.2	2,253,418	1,227,895	623,952	810,003
Minn., St. Paul & S. S. Marie	July	3,224	3,233,305	127,721	3,529,972	855,854	636,354	75,687	1,409,113	3,113,019	88.2	416,953	130,571	286,384	640,464
	7 mos.	3,224	20,360,176	578,909	22,051,456	4,789,688	4,573,075	511,822	9,290,020	20,009,706	90.7	2,041,750	1,443,811	466,464	—483,563
Mississippi Central	July	148	209,443	—132	213,754	43,403	23,686	12,191	55,724	143,875	67.3	69,879	34,026	26,529	18,096
	7 mos.	148	1,491,534	—298	1,521,201	290,493	195,788	90,505	400,960	1,042,881	68.6	478,320	219,534	181,716	111,131
Missouri-Illinois	July	172	362,312	229	368,480	85,584	105,123	7,221	108,431	317,129	86.1	51,351	30,116	33,203	37,047
	7 mos.	172	2,928,177	1,323	2,979,446	451,677	482,808	54,793	793,833	1,839,109	61.7	1,140,337	759,374	440,326	434,693
Missouri-Kansas-Texas Lines	July	3,242	4,316,703	340,054	5,082,366	1,485,081	895,235	250,771	2,432,387	5,378,851	105.8	—296,485	Cr. 445,368	—28,671	832,449
	7 mos.	3,243	37,121,254	3,048,629	43,902,445	7,004,827	6,581,831	1,704,257	17,200,212	34,749,077	79.2	9,153,368	4,035,183	3,301,069	4,263,607
Missouri Pacific	July	6,960	15,351,863	1,101,203	18,073,193	3,933,679	4,444,945	434,710	7,486,394	16,959,912	93.8	1,113,281	86,181	527,773	2,992,096
	7 mos.	6,960	113,512,851	7,063,482	132,301,213	23,165,833	26,962,613	3,077,092	51,860,666	109,475,221	82.7	22,825,992	8,757,525	10,692,581	13,295,841
International-Great Northern	July	1,104	2,643,085	253,484	3,153,559	638,964	555,137	53,419	1,282,016	2,667,606	84.6	485,953	125,805	218,471	217,672
	7 mos.	1,104	18,488,418	1,616,785	2,904,461	4,604,476	3,753,782	377,766	8,657,756	18,330,691	83.7	3,573,770	982,533	1,561,071	1,727,761
Gulf Coast Lines	July	1,727	3,196,132	134,328	3,509,961	703,939	553,373	86,029	1,204,230	2,696,616	76.83	813,345	225,982	342,750	342,441
	7 mos.	1,727	23,305,677	793,838	25,418,796	5,211,019	3,960,507	591,359	8,411,051	19,201,959	75.54	6,216,837	2,187,616	2,546,047	3,276,573
Monongahela	July	178	614,444	—3	618,689	88,271	88,867	1,270	223,058	408,489	66.0	210,200	163,697	—82,626	—7,675
	7 mos.	178	5,097,084	—32	5,125,818	619,052	607,183	8,302	1,782,556	3,072,747	59.9	2,053,071	485,588	552,157	95,607
Montour	July	51	125,780	.....	125,780	64,730	72,909	953	64,802	212,603	169.0	—86,823	Cr. 1,983	—10,539	18,781
	7 mos.	51	1,431,227	.....	1,435,013	202,863	599,910	6,280	604,422	1,479,630	103.1	—44,617	225,926	168,607	283,076
Nashville, Chatt. & St. Louis	July	1,049	2,517,183	194,260	2,929,128	643,615	483,535	100,722	1,110,384	2,439,642	83.3	489,486	313,411	224,996	355,116
	7 mos.	1,049	18,854,450	1,257,957	21,900,726	3,945,086	3,271,766	781,551	7,921,410	16,759,599	76.5	5,141,127	2,849,835	2,436,836	2,242,708
New York Central	July	10,725	45,832,901	10,454,585	63,087,209	7,707,381	12,636,582	1,066,820	29,816,811	54,353,119	86.2	8,734,090	5,022,937	2,445,606	5,888,492
	7 mos.	10,727	340,245,406	68,045,579	457,705,368	60,705,377	95,164,407	7,311,476	215,701,331	400,556,115	87.5	57,149,253	34,686,284	10,508,336	11,975,303
Pittsburgh & Lake Erie	July	221	3,726,068	82,741	3,993,995	484,417	1,562,727	72,947	1,421,953	3,747,232	93.8	246,763	379,901	416,347	772,617
	7 mos.	221	26,795,627	565,769	28,692,243	3,523,127	8,668,832	511,052	10,139,923	24,302,826	84.7	4,389,417	4,789,110	4,624,849	4,630,843
New York, Chicago & St. Louis	July	2,192	11,713,940	189,955	12,417,511	1,583,750	2,118,354	284,823	4,642,922	9,069,765	73.0	3,347,746	1,633,153	1,400,938	1,506,379
	7 mos.	2,192	86,737,754	1,216,749	90,891,593	10,552,673	15,650,205	2,144,581	32,531,527	63,959,042	70.4	26,932,551	12,438,006	11,931,394	13,357,448
New York, New Haven & Hartford	July	1,794	7,132,058	4,607,163	12,940,035	2,025,288	2,129,767	184,916	5,675,487	10,663,652	82.4	2,276,383	913,000	461,464	744,730
	7 mos.	1,794	54,058,058	27,393,076	90,223,479	13,796,962	14,809,574	1,303,110	39,334,772	73,723,534	81.7	16,499,945	6,340,000	3,777,992	5,619,580
New York Connecting	July	21	297,091	.....	306,681	124,323	18,742	.....	62,633	208,726	68.1	97,955	83,001	54,718	11,420
	7 mos.	21	1,874,704	.....	1,954,780	664,953	115,208	.....	471,809	1,271,972	65.1	682,808	498,407	388,369	362,891
New York, Ontario & Western	July	542	543,678	29,097	594,703	144,648	88,942	26,163	302,999	594,389	99.9	314	38,826	—103,188	—46,365
	7 mos.	542	4,058,245	37,986	4,266,497	791,473	610,692	183,798	1,998,262	3,798,308	89.0	468,189	261,061	—269,329	—476,357
New York, Susquehanna & Western	July	120	368,134	35,855	422,231	58,649	54,158	7,482	196,848	340,028	80.5	82,203	14,374	32,888	6,423
	7 mos.	120	2,825,899	264,104	3,218,383	378,837	370,897	56,947	1,354,371	2,333,515	72.5	884,868	259,430	351,821	260,189
Norfolk & Western	July	2,135	13,579,030	553,413	14,853,426	2,343,449	3,008,118	277,818	4,798,058	11,014,880	74.2	3,838,546	2,980,580	1,729,497	1,660,830
	7 mos.	2,135	105,023,053	3,401,603	13,311,829	15,959,516	23,714,345	1,976,521	34,471,891	80,247,557	70.8	33,064,272	23,890,035	15,792,742	13,717,398
Norfolk Southern	July	643	951,268	.....	975,685	174,909	103,641	44,574	319,174	710,097	72.8	265,588	146,036	65,627	42,167
	7 mos.	643	6,387,268	43	6,549,164	1,193,814	789,087	320,486	2,121,299	4,911,545	75.0	1,637,619	826,910	505,345	331,585
Northern Pacific	July	6,887	11,861,241	811,175	13,613,197	2,409,218	2,963,037	282,120	5,460,595	11,817,280	86.8	1,795,917	1,187,825	892,219	3,010,441
	7 mos.	6,887	82,483,424	4,439,440	93,333,268	15,215,140	19,140,190	1,945,393	36,958,107	77,845,270	83.4	15,487,998	11,645,297	6,815,406	3,747,418
Northwestern Pacific	July	331	897,330	6,188	929,997	227,265	109,407	5,448	393,606	753,523	81.0	176,474	85,947	21,287	118,720
	7 mos.	331	6,246,786	27,510	6,450,245	1,580,153	738,585	33,848	2,864,445	5,332,003	82.7	1,118,242	491,935	122,757	297,330
Oklahoma City-Ada-Atoka	July	132	81,458	.....	82,072	23,479	4,971	1,462	20,839	54,495	66.4	27,577	6,517	9,080	5,756
	7 mos.	132	663,732	—66	669,847	153,528	31,131	11,921	151,195	373,943	55.8	295,904	124,631	88,364	26,425
Pennsylvania	July	10,127	63,953,426	13,136,015	84,755,416	11,378,957	18,811,630	1,261,381	36,708,349	71,278,130	84.1	13,477,286	6,787,351	4,944,279	5,556,936
	7 mos.	10,127	448,790,622	87,720,532	589,218,044	73,288,229	148,549,156	9,012,578	260,391,567	513,217,028	87.1	76,001,016	38,346,665	26,144,811	25,502,031

(Table continued on next left-hand page)

ARE YOU ON A MAINTENANCE MERRY-GO-ROUND?

Correct Lubrication can help you increase Diesel availability, stretch periods between overhauls, cut maintenance costs.

If your Diesels are in the shop more than they should be, Socony-Vacuum *Correct Lubrication* may well be the answer to your troubles.

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A program of *Correct Lubrication* brings you all the benefits of this vast experience—these advanced products. Why not start such a program on *your* road today?

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SOCONY-VACUUM OIL COMPANY, INC., RAILROAD DIVISION
26 Broadway, New York 4, N. Y.

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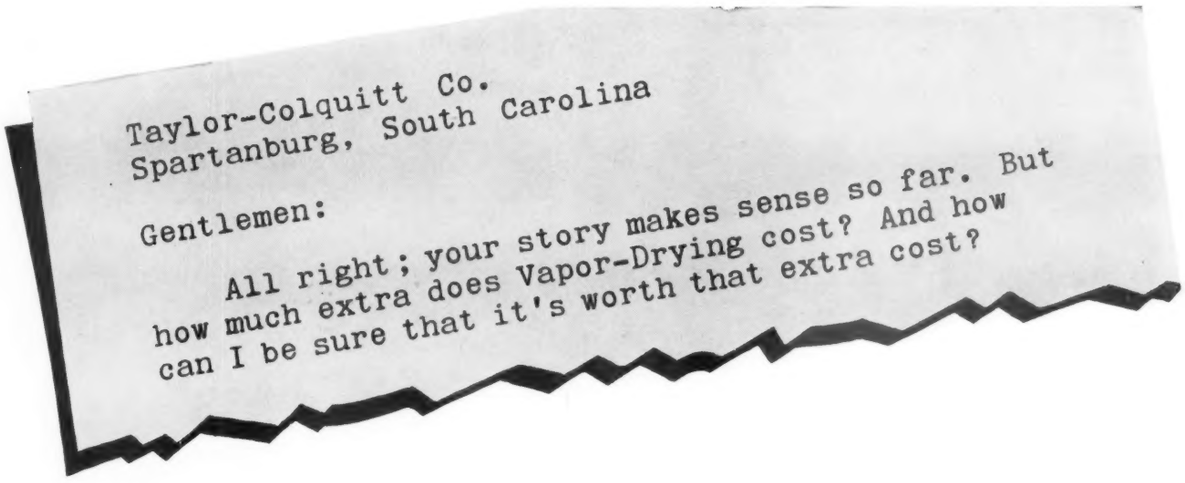
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1951	1950
Pennsylvania-Reading Seashore Lines	July	365	661,129	482,347	1,184,292	209,794	102,854	11,001	699,557	1,066,989	90.1	117,303	100,746	—130,546	—86,471
	7 mos.	366	4,254,740	1,338,325	5,863,266	1,549,241	659,483	75,725	4,098,956	6,650,640	113.4	—787,374	681,512	—2,405,125	—3,159,660
Pittsburg & Shawmut	July	97	180,209	.....	180,976	32,754	49,503	3,642	53,406	149,021	82.3	31,955	10,381	29,062	22,610
	7 mos.	97	1,388,902	.....	1,397,043	205,024	379,206	24,389	379,444	1,050,009	75.2	347,034	81,086	277,815	284,372
Pittsburgh & West Virginia	July	132	671,170	.....	678,248	165,475	186,239	45,823	197,887	620,220	91.4	58,028	43,387	59,351	92,075
	7 mos.	132	4,975,356	.....	5,040,667	983,851	1,211,406	343,743	1,406,385	4,129,067	81.9	911,600	586,004	728,406	770,217
Reading	July	1,313	9,006,507	573,798	10,129,400	2,195,702	2,299,563	137,718	4,088,535	9,070,486	89.5	1,058,914	762,692	559,229	981,289
	7 mos.	1,313	65,473,346	4,022,406	73,949,773	11,294,637	16,411,643	972,281	29,922,512	60,946,817	82.4	13,002,956	7,492,653	6,095,373	6,776,837
Richmond, Fredericksburg & Potomac	July	118	1,381,961	629,192	2,207,703	388,313	282,170	20,915	694,753	1,516,185	68.7	691,518	415,887	189,446	249,887
	7 mos.	118	10,422,465	4,132,043	16,236,048	2,021,526	1,936,902	142,748	5,171,286	10,233,225	63.0	6,002,823	3,226,875	2,017,186	1,853,724
Rutland	July	397	354,028	30,731	455,529	74,749	78,160	12,773	212,582	399,251	87.6	56,278	32,286	5,516	30,624
	7 mos.	404	2,696,377	168,929	3,373,887	590,803	578,376	106,671	1,750,224	3,178,990	94.2	194,897	230,194	—161,864	—208,141
Sacramento Northern	July	271	247,555	.....	251,597	52,106	24,945	2,488	96,659	184,627	73.4	66,970	18,938	30,396	48,025
	7 mos.	271	1,815,804	205	1,854,382	394,803	206,782	15,124	649,663	1,323,422	71.4	530,960	114,685	268,100	83,985
St. Louis-San Francisco	July	4,601	8,704,959	587,512	9,943,821	1,822,084	1,836,488	279,048	4,053,917	8,478,711	85.3	1,465,110	796,368	552,844	998,897
	7 mos.	4,615	60,539,243	4,412,758	69,874,464	11,844,506	12,036,134	1,924,014	26,853,278	55,902,278	80.0	13,972,186	7,993,089	6,185,210	6,297,301
St. Louis, San Francisco & Texas	July	159	365,044	12,067	402,966	51,030	36,462	17,420	153,183	270,503	67.1	132,463	45,146	26,072	32,233
	7 mos.	159	2,524,268	77,807	2,779,396	341,181	255,582	129,969	1,077,352	1,889,035	68.0	890,361	329,538	200,494	106,334
St. Louis Southwestern Lines	July	1,569	5,456,031	59,181	5,718,640	923,963	764,953	153,186	2,013,801	4,100,348	71.7	1,618,292	745,992	549,561	1,045,194
	7 mos.	1,569	38,604,531	409,851	40,418,683	5,079,837	4,925,024	1,067,178	12,802,929	25,194,009	62.3	15,224,674	8,170,380	5,231,213	5,725,772
Seaboard Air Line	July	4,146	9,277,997	1,159,104	11,202,912	1,819,326	2,107,644	344,006	3,871,827	8,643,363	77.2	2,559,549	1,364,589	1,223,509	964,843
	7 mos.	4,146	74,530,616	9,170,309	89,644,414	14,839,021	15,436,640	2,426,097	30,550,647	66,941,085	74.7	22,703,329	11,042,143	9,888,728	8,716,527
Southern	July	6,344	16,737,057	1,986,017	20,005,088	2,931,444	4,528,886	404,124	7,449,148	16,202,874	81.0	3,802,214	1,949,246	1,620,539	2,085,360
	7 mos.	6,344	126,811,742	11,755,394	148,511,003	20,785,946	29,271,347	2,774,641	53,065,645	111,942,793	75.4	36,568,210	17,738,815	14,758,798	14,830,440
Alabama Great Southern	July	316	1,320,362	113,070	1,563,538	244,486	446,991	32,452	544,585	1,332,029	85.2	231,509	169,587	84,873	197,928
	7 mos.	316	9,735,599	668,204	11,250,466	1,641,580	2,808,018	223,522	4,018,245	9,119,905	81.1	2,130,561	1,580,305	800,177	983,835
Cinn., New Orleans & Texas Pacific	July	336	3,262,533	226,106	3,640,238	476,948	915,953	69,661	1,024,608	2,614,197	71.8	1,026,041	642,705	468,528	702,636
	7 mos.	336	22,995,840	1,529,245	25,732,159	3,188,357	5,569,693	469,987	6,990,266	17,105,815	66.5	8,626,344	5,479,849	3,664,338	4,145,901
Georgia Southern & Florida	July	397	506,215	88,929	651,180	143,410	82,476	7,985	223,620	473,773	72.8	177,407	31,045	37,762	13,796
	7 mos.	397	3,883,676	616,206	4,894,199	1,135,048	474,346	54,970	1,557,256	3,371,291	68.9	1,522,908	413,778	348,834	326,787
New Orleans & Northeastern	July	203	957,951	67,309	1,079,969	140,583	168,474	19,526	252,984	630,564	58.4	449,405	267,741	152,830	236,078
	7 mos.	203	6,859,198	376,071	7,607,023	1,124,355	905,479	135,666	1,771,910	4,250,704	55.9	3,356,319	2,026,243	1,092,589	1,229,476
Southern Pacific	July	8,127	36,251,975	3,957,453	42,657,697	4,967,680	9,110,426	769,716	17,490,600	34,475,250	80.8	8,182,447	4,249,153	2,084,389	3,415,497
	7 mos.	8,128	249,781,421	24,671,562	291,015,003	33,251,410	60,358,502	5,324,087	112,852,915	225,320,459	77.4	65,694,544	35,671,700	21,010,371	18,717,909
Texas & New Orleans	July	4,292	9,015,140	969,571	10,686,766	1,747,173	2,023,912	246,750	4,537,969	9,120,814	85.3	1,565,952	663,111	354,528	991,023
	7 mos.	4,302	68,214,480	5,800,252	79,063,295	12,865,552	13,056,839	1,717,797	30,689,239	62,121,750	78.6	16,941,545	7,872,233	5,317,225	5,791,811
Spokane International	July	152	208,863	928	220,309	46,801	27,194	4,892	60,037	148,488	67.4	71,821	27,629	27,061	38,476
	7 mos.	152	1,383,462	6,592	1,474,120	387,710	153,092	33,268	397,248	1,035,463	70.2	438,657	152,106	185,424	232,173
Spokane, Portland & Seattle	July	931	2,548,409	104,023	2,788,782	424,884	369,245	23,603	765,778	1,676,748	60.1	1,112,034	416,144	487,058	315,672
	7 mos.	931	15,685,460	590,085	17,144,831	2,742,685	2,132,657	170,586	5,139,054	10,793,465	63.0	6,351,366	2,188,128	3,406,152	2,065,927
Tennessee Central	July	286	363,108	35,203	421,799	97,394	65,257	10,317	145,123	337,312	80.0	84,487	24,513	21,871	22,767
	7 mos.	286	2,614,427	139,425	2,911,649	617,630	484,288	76,865	1,007,443	2,323,728	79.8	587,921	175,709	192,816	235,545
Texas & Northern	July	8	116,493	.....	129,587	8,900	13,141	984	28,424	55,939	43.17	73,648	39,109	22,026	42,746
	7 mos.	8	704,533	.....	793,425	115,741	77,592	6,749	214,646	445,245	56.11	348,180	156,559	101,023	219,011
Texas & Pacific	July	1,846	5,665,832	494,842	6,591,183	947,450	1,008,081	177,953	2,273,698	4,734,140	71.8	1,857,043	730,582	785,781	786,123
	7 mos.	1,846	38,031,641	2,984,615	44,290,283	6,103,806	6,818,787	1,195,549	14,791,289	31,140,817	70.3	13,149,466	5,743,135	5,038,116	4,480,814
Texas Mexican	July	162	222,850	.....	249,260	65,017	31,805	8,268	60,249	184,760	74.1	64,500	21,241	21,195	55,572
	7 mos.	162	1,708,982	.....	1,925,420	455,934	223,708	50,651	448,776	1,308,799	68.0	616,621	234,745	230,108	367,279
Toledo, Peoria & Western	July	239	442,048	.....	449,678	129,512	44,872	40,669	131,937	383,930	85.38	65,748	Cr. 5,014	38,395	74,660
	7 mos.	239	3,907,210	189	3,956,682	696,254	287,304	305,048	944,215	2,470,249	62.43	1,486,433	732,985	437,691	478,917
Union Pacific	July	9,712	32,525,399	4,148,382	39,627,979	6,714,268	8,067,630	871,080	15,109,119	33,194,141	83.8	6,433,838	4,546,134	97,129	3,755,089
	7 mos.	9,717	236,954,398	21,346,095	277,596,844	40,498,471	55,817,605	6,267,064	100,302,349	217,612,130	78.4	59,984,714	40,103,136	10,381,923	14,194,427
Utah	July	110	93,419	.....	93,482	17,957	34,295	816	38,041	97,897	104.7	—4,415	9,360	4,704	—14,397
	7 mos.	110	582,036	.....	583,347	119,266	323,152	5,579	300,347	798,875	136.9	—215,528	72,941	—203,100	—165,380
Virginian	July	643	2,994,694	3,664	3,120,615	479,279	879,222	42,672	740,466	2,232,741	71.6	887,874	587,000	499,568	543,217
	7 mos.	643	24,420,543	17,600	25,325,921	3,001,130	5,610,294	291,962	5,606,728	15,117,955	59.7	10,207,966	6,689,500	4,842,753	4,347,220
Wabash	July	2,393	6,968,798	422,775	8,020,107	2,110,289	1,195,484	274,178	3,818,857	7,778,508	97.0	241,599	39,500	—266,853	860,743
	7 mos.	2,393	56,204,529	2,944,884	63,685,529	9,330,621	8,481,706	1,907,727	26,509,287	48,685,485	76.4	14,999,684	6,805,617	4,667,993	5,150,534
Ann Arbor	July	294	753,528	.....	794,011	150,942	106,919	27,509	339,692	647,002	81.5	147,009	81,408	52,318	127,013
	7 mos.	294	5,284,897	.....	5,378,439	657,821	751,272	176,534	2,239,791	3,956,933	73.6	1,421,506	732,238	548,022	768,888
Western Maryland	July	837	3,312,949	14,130	3,497,136	524,157	766,095	78,628	1,166,525	2,700,857	77.2	796,279	543,000	469,906	574,559
	7 mos.	837	26,323,934	64,528	27,649,492	3,795,142	5,493,770	550,364	8,731,190	19,662,717	71.1	7,786,775	4,816,000	4,676,326	4,224,807
Western Pacific	July	1,193	3,586,506	269,070	3,949,168	639,855	705,013	172,766	1,324,323	3,058,637	77.5	890,531	493,575	282,215	597,128
	7 mos.	1,193	28,408,893	1,770,168	30,823,019	4,282,090	4,574,010	1,181,238	8,871,006	20,676,939	67.1	10,146,080	5,414,575	4,182,902	3,240,899
Wisconsin Central	July	1,051	2,317,475	66,265	2,509,051	364,520	451,165	66,365	1,099,096	2,085,922	83.1	423,129	157,247	151,777	388,329
	7 mos.	1,051	16,355,340	289,971	17,526,603	2,443,818	3,278,779	456,444	7,485,247	14,342,406	81.8	3,184,197	1,107,520	877,203	1,634,820


Taylor-Colquitt Co.
Spartanburg, South Carolina
Gentlemen:
All right; your story makes sense so far. But how much extra does Vapor-Drying cost? And how can I be sure that it's worth that extra cost?

THE FIRST ADVERTISEMENT of this series told how Vapor-Drying* could give you *immediate* savings of $6.60 or *eventual* savings of over $100.00 per mile yearly. Next we explained how Vapor-Drying corrected gum's disadvantages, making it the equal of oak as a crosstie material. And last month, in an analogy between transverse fissures in steel rail and checking and splitting crossties, we showed how Vapor-Drying prevented such defects, imparting longer life to crossties.

Having followed this Vapor-Drying series thus far, many readers will now naturally inquire: "How much does it cost?"

We'll answer straight and to the point. A railroad might invest about 30 cents more in a Vapor-Dried and treated crosstie than in an air-seasoned one. That works out to about six per cent additional.

In actual practice, however, this difference may be whittled down or even disappear entirely when other factors are considered. For instance, there's the matter of decay and splitting "on the yard" during the air-seasoning period before creosoting. Every tie producer knows such loss causes many rejections which increase the cost of each usable tie. With Vapor-Drying you have no decay or splitting "on the yard" because there is no long air-seasoning period. Consequently you make real savings at this point.

Then take tie irons. You know what you pay for them and what it costs to apply them. It can amount to nine cents per tie—or more. Vapor-Drying saves that, for it makes tie irons unnecessary.

Another hidden tie cost has been mentioned before in this series; insurance and interest on investment during the seasoning period. Call this five per cent of the tie cost, a conservative figure. Vapor-Drying cuts this in half because it enables you to reduce your tie inventory at least fifty per cent.

These three factors in combination might easily account for nearly all of that 30 cents differential, but since they are variable, let's forget them temporarily and stick to simple known quantities. So, going back to that 30 cents; just what do you get for it?

Well, for one thing, longer tie life. According to A.R.E.A. figures, the national average life of crossties is about 23½ years. At today's prices, that comes to 20 cents a year per tie. At that rate, a Vapor-Dried tie would only have to last a year and a half longer to justify its slightly higher cost.

Will it last one and a half years longer? Or two, three, five, or ten years longer? Nobody knows for sure. After all, Vapor-Drying is only ten years old, and our oldest controlled test was only started eight years ago. But railroad engineers and wood preservation experts who have looked into Vapor-Drying seem agreed that five more years is not too much to expect of these ties. They say this because Vapor-Dried ties observed after five to eight years show few of the beginning signs of decay which are usually present in air-seasoned ties of the same age. Now five years more life is roughly 20 per cent longer, and that has to equal a 20 per cent saving. When it comes to any maintenance cost, especially a major one such as crossties, you'll find few railroads deliberately ignoring a 20 per cent saving!

Thorough testing and investigation led the Norfolk & Western to adopt Vapor-Drying. Among other roads conducting tests with uniformly favorable first results are the Southern, Atlantic Coast Line, Clinchfield, Charleston & Western Carolina, and Piedmont & Northern. As a process with tremendous cost-cutting possibilities, Vapor-Drying merits your careful inquiry. Get the whole story from Vapor-Drying Division, Taylor-Colquitt Co., Spartanburg, South Carolina.

This is the fifth in a series of discussions on the economic aspects of Vapor-Drying. Another will appear soon.

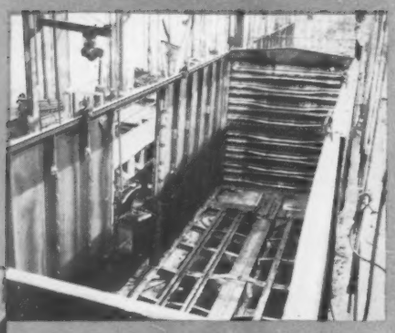
TAYLOR-COLQUITT CO. T·C TIMBER CONSERVATION ®

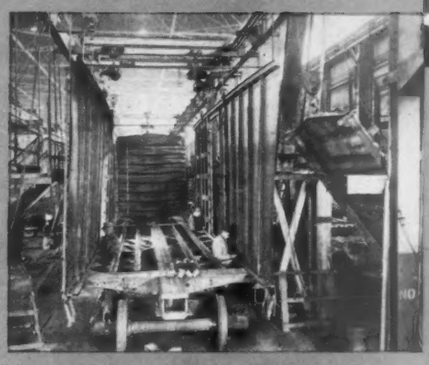
(Advertisement)

*Process patented

For additional information, use postcard on pages 75, 76

602000
TRAVEL





AGENTS OF PROGRESS

Ribbons of steel linking the far reaches of our great land are symbolic reminders that the Railroads have made significant contributions to America's progress. From farms to urban markets, from resources to diversified industries, from manufacturer to consumer, the Railroads have lent a mighty hand to develop... to improve... and promote... our way of life.

For over half a century a.c.f., too, has been a prominent part of this progress through its service to the Railroads in supplying the finest that can be made in freight and passenger cars. a.c.f. has indeed pioneered countless improvements in design and fabrication techniques to give the Railroads the highest quality cars and equipment ever built.

a.c.f. continues its proud association with America's Railroads...'Agents of Progress'.

American Car and Foundry Company, New York
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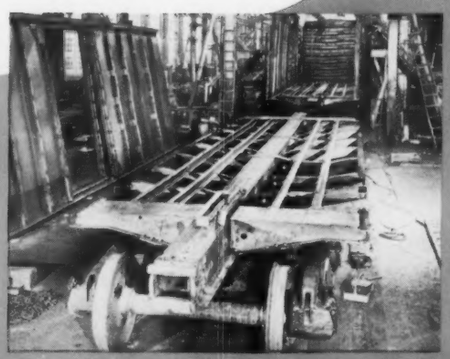


The views here are of three steps in the assembly line construction of a.c.f. Standardized Box Cars. Pre-fabrication of sides, ends, and underframe speeds quality production.

a.c.f.

CAR BUILDERS TO AMERICA'S RAILROADS

With

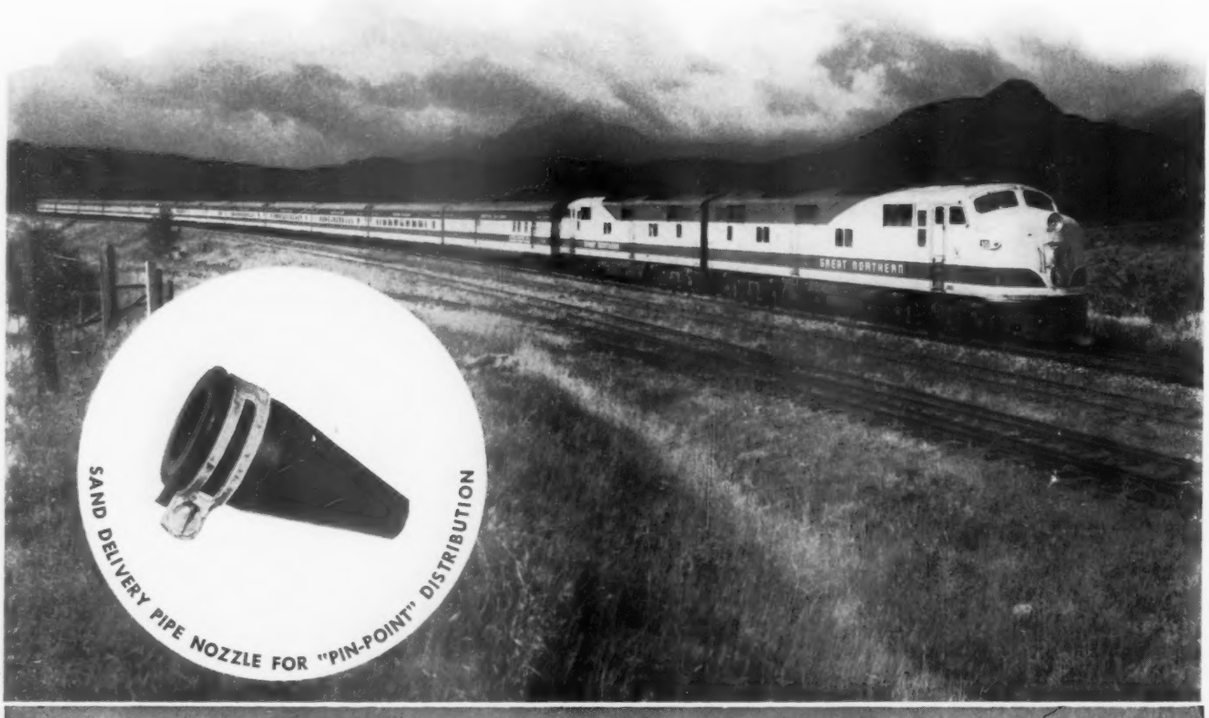
NYCO SANDERS

You Run *Twice as Far* With a Given Amount of Sand...

NYCO

It has been proven again and again—NYCO SANDERS do a precise and thorough job and yet use not to exceed half the sand compared to conventional practice. This means important savings in the time and labor needed for refilling sand boxes and in the maintenance and operation of sand driers and sanding towers and in unnecessary dust causing troublesome and costly wear and tear on bearings and in continuous washing and wiping of locomotives to keep them presentable.

NYCO'S high velocity "pin-point" distribution of the sand provides maximum traction without fouling running gear or ballast. Wearing parts are quickly renewable. Use these efficient sanders for long service life at low cost—on either Diesel or steam locomotives.



The New York Air Brake Company

420 Lexington Ave., New York 17, N.Y. Plant: Watertown, N.Y.

RAILROADS CONDEMNED TO ATTRITION OF THEIR PLANT

Responsible managements of the railroads cannot tamely accept the niggardly increase in freight rates authorized by the Interstate Commerce Commission decision in Ex Parte 175, for the simple reason that the resultant rate level is not sufficient to yield the industry the net income required to keep railroad property intact, in the face of depreciation and obsolescence. Moreover, if this regulatory parsimony persists and brings about the inevitable transportation shortage, perhaps in a time of tragic national peril, it will be railroad managements—not the regulators—who will be held up to opprobrium, unless the managements now put before the public the facts of this situation with all the force they can command.

No More Miracles

Only a miracle—sometimes known as the "Mike Gormley miracle"—saved the country during World War II from a drastic shortage of transportation, brought on by the starvation the railroads suffered during the Thirties. The Interstate Commerce Commission is evidently hoping that the railroads have other similar or greater miracles up their sleeves—once again to sustain high output with little or no input. Practical railroad men know, however, that the supply of such miracles is exhausted.

There is more than one reason for the shortage of freight cars from which the country has suffered practically ever since hostilities began in Korea—but, certainly, the most important contributing factor was the dearth of freight car orders by the railroads for many months prior to the Korean trouble. And the reasons why freight car orders had dried up were (1) the poor outlook for peacetime traffic volume in the face of wholesale diversion of tonnage to subsidized and virtually unregulated competitors; and (2) the fact that financial houses were beginning to question the security offered by many railroads for further equipment loans.

In the decade 1921-1930, inclusive, the investment in railroad property averaged $23 billion. The Transportation Act of 1920 gave the Interstate Commerce Commission mandate so to regulate rates as to enable the railways to earn on the average a "fair return on a fair valuation." In an opinion in 1922 the commission held that an average of 5¾ per cent would be such a "fair return," and with rates the commission authorized the railways earned net operating income in 1921-1930 averaging $1,017 million annually. This was about 4.2 per cent on the $23 billion average investment reported. The commission justified the difference between 5¾ per cent and 4.2 per cent on the ground that the investment reported exceeded the "fair value" of the properties, and that the return actually allowed approximated a "fair return on *fair value*."

At the end of 1950 the investment in road and equipment had increased to $29½ billion, or to $6½ billion more than it averaged in 1921-1930. Net operating income in 1950 was $1,040 million and produced a return of only about 3.5 per cent on the investment reported. Bearing in mind that the commission had considered itself obligated to authorize rates that yielded 4.2 per cent on an average investment of $23 billion, why, then, did it not consider itself obligated to authorize rates that would yield 4.2 per cent on an investment of $29½ billion in 1950? This would have meant a net operating income of $1,239 million, or about $200 million more than was earned in 1950, or than probably can be earned under the increases authorized in Ex Parte 175.

"Agenda for Inflation"

The London "Economist" has recently published a series of articles under the heading "Agenda for the Age of Inflation," and the first canon of the "Agenda" is: *The replacement of fixed assets and of stock-in-trade must be freed of income tax.* This is just another way of saying that, if a nation does not want its industrial

(and railroad) plant to shrivel up and vanish in a protracted period of rising prices, then care must be taken that these industries be allowed enough money after paying operating expenses and taxes to replace their plant and machinery as it wears out. Routine charges to depreciation would do this if the value of the dollar were not declining, but such charges today will turn up only half the cash needed for replacement when a machine purchased before World War II wears out. Hence it is that—just to keep their plant intact, and without any provision for added capacity—the railroads today ought to have not less than twice the net earnings they had in the Twenties.

That is to say, at a time when traffic is as heavy as it is now, the railroads ought to be allowed, if they can, to earn substantially more than $2 billion of net railway operating income. From the book "Rates of Return—Class I Line-Haul Railways, 1941-48," by Sidney L. Miller, Virgil D. Cover, et al., can be cited irrefutable facts showing the miserly treatment the railroads have suffered, compared not only to unregulated industry but to the regulated utilities as well—enterprises against which the railroads are competing, very unsuccessfully, for available investment capital.

It is a safe assumption that the American people do not want railroad service to fall down in a time of national peril. It is equally safe to assume that they do not want the railroads to have to look to the public treasury as a source of necessary capital. Yet one or the other, and perhaps both, of these results will inevitably follow the continuance of the Interstate Commerce Commission's present policy of railroad rate regulation. It is hard to account for the myopia of the able and honorable men who comprise the commission on so simple an issue as this one. But nobody, including railroad management, who knows the facts and acquiesces in them is likely to retain, or deserve from history, a reputation for competence and responsibility.

CAN DIESEL WHEEL STAMPING BE ELIMINATED?

A measure which gives every indication of reducing diesel wheel failures has been taken by the Association of American Railroads' wheel committee in recommending an alternate method of marking wheels in which the stamping is done on the hub rather than on the rim. Because sharp corners or any other abrupt change in section cause stress concentration, it is more desirable — or perhaps, more accurately, less undesirable — to stamp at a location other than the rim where stresses are likely to be most severe. It would, of course, be still better to omit stamping altogether. Can this be done?

Two major objectives are served by stamping wheels. The stamping avoids getting the wrong class of wheel on a locomotive, and it identifies failures. If only the first objective had to be attained, it could be done fairly readily by some other procedure. Possibly a tag could be affixed to the wheel with wire or perhaps by a spring clip in the bore to identify the wheel as to class. Maybe a smooth identification mark could be formed on the wheel during manufacture; such a mark could take the form of one ring for a Class A wheel, two rings for a Class B, etc.

The full information that stamping provides for identifying wheels that failed in service is not so easily attained; no other method that can be thought of at the moment would give, as stamping does, a permanent record of the date and company of manufacture, the class of wheel, and the exact wheel that failed. But one system comes to mind that would give information of equivalent value.

Suppose 100 wheels are received from manufacturer "D," stamped with serial numbers 7400 to 7499. If wheel 7422 fails in service, the stamping gives all the necessary information about it, including the fact that it was No. 7422. Now assume that the wheels had not been stamped, but a record kept of the lot number and when and from whom received. If, then, a second record is kept of each locomotive to which a wheel from this lot is applied, every bit of information is available which stamping would furnish except which particular wheel in the lot failed. How really important is it to know whether it was the first wheel in the lot that failed or the last wheel, or some in-between wheel?

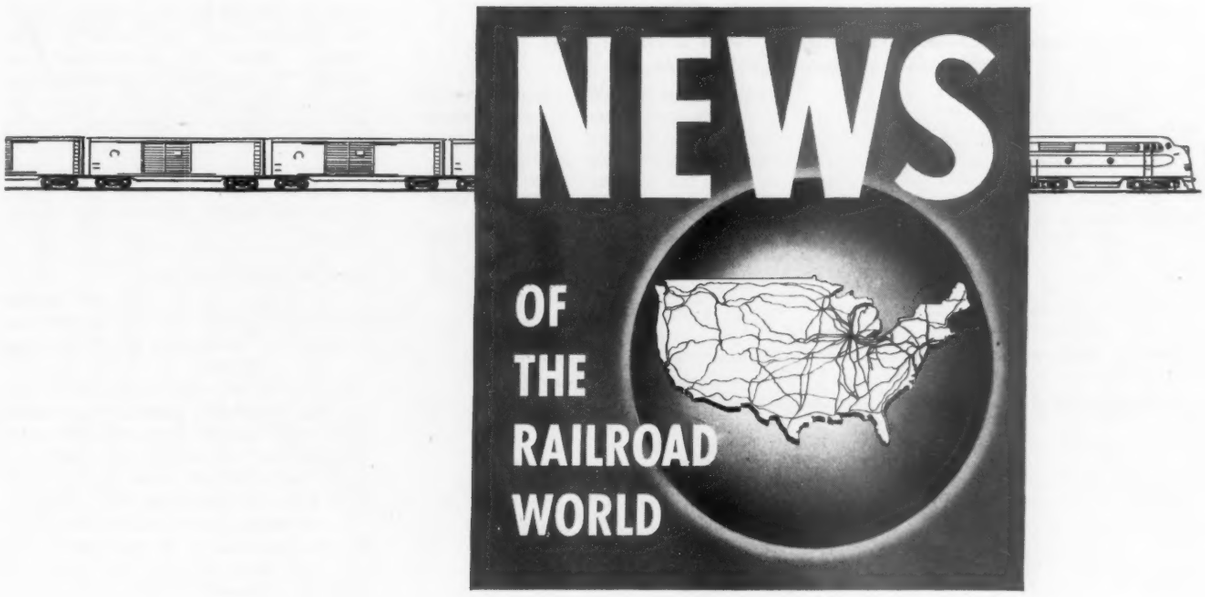
"IT LOOKS EASY"

One of the best editorials yet written on the railroads recently appeared in the Baltimore Sun, under apt heading, "The Railroads Make It Look Too Easy."

The Sun commented on some major new improvements made by railroads which serve Baltimore. Then it said, "Perhaps the railroads have only their own efficiency to blame for the fact that the public generally takes their services for granted. Their services are, on the whole, made inconspicuous by their smoothness of operation. When one travels by automobile one expects the delays, detours and dust made necessary by road repairs and new construction. The railroads, in contrast, somehow manage to rip up roadbeds, replace thousands of ties and rail sections each year and remodel bridges without any breaks in service. And the weather, of which one is acutely conscious in air travel, is not even a conscious factor (to the passenger) in railroading, short of a blizzard or hurricane.

"The city dweller expects, without thinking about it, that there will be a steady supply of fruit from Florida and California, potatoes from Maine, cars from Detroit, lumber from Oregon, meat from Chicago and off-season vegetables from the Gulf states. The traveler expects clean sheets and table linens, fresh meat and vegetables on the menu, hot and cold running water, air-conditioning and power for electric razors, wherever the train goes and whatever the conditions outside. The public expects, without knowing how box-cars are routed or the price of one locomotive, that the railroads will instantly meet military supply and transportation needs, not only without excuses but without any real curtailment of civilian services."

Yes, the railroads make it look easy—because back of their services is the finest, best integrated and most efficient transportation organization the world has ever known.—*Editorial in the St. Johnsbury, Vt., Caledonian.*



Railroads Now See 1951's Gross Capital Expenditures Totaling $1,457 Million

Latest estimates are in line with earlier predictions that year's outlays will be at all-time high, but they move the prospective peak up $81.4 million; "Monthly Comment" also compares ton-mile revenues of railroads and trucks, and has other articles on age of locomotives and distribution by commodity groups of general increases in freight rates

Latest estimates submitted by Class I railroads to the Interstate Commerce Commission's Bureau of Transport Economics and Statistics indicate that the carrier's gross capital expenditures for 1951 will total $1,457,811,000. The estimates were in line with earlier predictions that the year's expenditures would be at an all-time high, but they moved the prospective peak $81.4 million above that involved in the earlier projections.

The figures were summarized by the bureau in the latest issue of its "Monthly Comment," which also contained an article with data showing that the 1950 ton-mile revenue of the railroads was only about one-fourth that of motor carriers. Other articles discussed the age of locomotives and the distribution by commodity groups of the general increases in freight rates.

The estimate of 1951 expenditures was based on returns made by 127 roads which submitted estimates for the third and fourth quarters as well as reporting their actual outlays for the first half. The total of $1,457,811,000 compares with the earlier estimate of $1,376 million (*Railway Age*, March 26, page 49), and with a 1950 total of $1,066 million for all 131 Class I roads. The present all-time high is 1949's $1,312 million.

During the first half of this year, the 131 roads made gross capital expenditures totaling $660.1 million. This included $10.8 million spent by the four roads which failed to furnish estimates for the third and fourth quarters. Other figures are given in an accompanying table, reproduced from the "Comment."

After noting that the full-year estimates predicted an all-time high, the bureau made this further comment: "It should be noted, however, that because of the current high price levels the actual number of the various units of equipment and quantities of roadway materials purchased in 1951 are likely to be considerably lower than in some of the earlier years."

The ton-mile-revenue comparisons showed a motor carrier average for 1950 of 5.162 cents, as compared with a railroad average of 1.329 cents. The latter is 25.7 per cent of the former. During the 1942-1950 period, that percentage ranged from 1947's 22.5 to 1949's 25.9.

Meanwhile, the railroads' average

Actual and Estimated Gross Capital Expenditures—Class I Steam Railways

Period	Number of roads	Road Thousands	Equipment Thousands	Total Thousands
Estimated 1951:				
3rd quarter	127	$103,574	$265,525	$369,099
4th quarter	127	95,616	332,957	428,573
2nd half	127	199,190	598,482	797,672
Total: 1951 actual and estimated	..	351,632	1,106,179	1,457,811
Percent of change:				
1st half 1951 vs. 1st half of 1950	..	+27.4	+36.1	+34.0
2nd half 1951 (Est.) vs. 2nd half 1950	..	+19.4	+47.3	+39.2
Year 1951 (actual and estimated) vs. 1950	..	+22.7	+41.9	+36.8

Estimated Average Percentage Increases in Freight Rates Authorized Since June 30, 1946

	Commodity Group	United States*	Eastern district	Pocahontas region	Southern region	Western district*
I	Products of agriculture	57.6	63.1	64.7	59.7	55.2
II	Animals and products	71.0	78.3	78.5	71.1	64.9
III	Products of mines	53.5	55.2	53.5	54.4	49.3
IV	Products of forests	70.2	77.5	77.7	73.8	66.5
V & VI	Manufactures and miscellaneous, including forward traffic	76.1	86.1	85.8	72.6	66.6
VII	Less-carload traffic	77.9	87.1	87.1	74.3	67.4
	Total, all commodities	67.1	73.2	67.0	67.0	61.5
	Including effect of Western trunk-line Zone 1 increase	67.6				62.0

* Does not include effect of extra authorizations for Western trunk-line Zone 1, except as shown on last line.

revenue per ton-mile has increased relatively more since 1942 than has that of the motor carriers. On the basis of 1942 as 100, the railroad index numbers for 1949 and 1950 were 143.7 and 142.6, respectively. In the case of the motor carriers, the index numbers for 1949 and 1950 were the same—138.

The bureau's comment on these figures included a warning against assuming that changes in rates are indicated by changes in the averages. The averages, it was explained, are affected by changes in lengths of haul, consist of traffic, and size of shipments. The bureau also noted that the 1950 figures "mark a departure from the upward trend for both types of carriers."

In another article, the bureau presented and discussed motor carrier figures reflecting 1950 truckload and less-truckload traffic and revenues. These data showed that 729 intercity truckers of Class I reported freight revenues totaling $1,247 million for 1950, when they billed 146.1 million shipments weighing a total of 81.9 million tons.

The bureau pointed out that only 2.5 per cent of the shipments billed represented truckloads (10,000 lb. or more); but this traffic accounted for "more than one-third of the freight revenue and nearly half of the total tonnage." In comparing the truck revenue figures with like railroad data, the bureau made this comment:

"Revenue comparisons . . . are obviously affected by variations in the length of haul and in the consist of traffic . . . However, the average revenue per ton on truckload shipments was nearly double the revenue figure of $5.80 on all rail carload freight per ton originated in 1950. In contrast, truckload revenue per ton was not quite $1 higher than the $9.97 average revenue per ton for Manufactures and Miscellaneous rail carload freight in the same year. On less-truckload freight the average revenue per ton of $19.24 was 40 per cent less than the $32.41 per ton on rail less-carload freight originated in 1950."

The bureau's compilation showing the distribution of freight-rate increases by commodity groups is in an accompanying table, reproduced from the "Comment." In discussing this showing, the bureau pointed out that it assumes intrastate increases in line with the interstate adjustment. Thus, the estimates are "overstated to some extent." Also, the discussion continued, "it should be emphasized that the percentages are overall averages for the commodity groups and areas concerned and that the increases on specific movements of individual commodities within a group may vary widely on both sides of the figure shown."

Age of Locomotives

The article on the age of locomotives has figures showing that Class I roads on December 31, 1950, had in service 14,047 diesel-electrics, of which 96.6 per cent were built during the 1940-1950 period. Those same roads also had in service 25,640 steam locomotives, of which 87.2 per cent were built before January 1, 1930, and only 1.7 per cent were built in the six years ended with 1950. Electric locomotives in service totaled 788, of which about 89 per cent were built prior to January 1, 1940.

Rail Rate Effect on Prices Exaggerated, Says Faricy

The total effect on prices of things most people buy of railroad freight rate increases authorized this year, applied to all rates on everything and at every step of the way, amounts to no more than one-third of one per cent of the wholesale value of commodities at destination and a still smaller percentage of retail prices, William T. Faricy, president of the Association of American Railroads, said in St. Joseph, Mich., on September 19.

Addressing the Economic Club of Southwestern Michigan, Mr. Faricy pointed out that there is a tendency to over-emphasize the effect of railroad rates. He called attention to the fact that "freight rates were among the last prices to start rising, have risen far less than prices in general, and are today an even smaller part of prices than they were when war began in 1939."

If there were nothing in the present economic situation more inflationary than increases in railroad rates, he continued, "we might all of us look to the future without misgiving. The fact of the matter is that increases in freight rates are consequences of inflation, not causes. They did not start the inflationary spiral, but have followed it, lagging behind all the way. They cannot properly be singled out from other prices which have had to follow upward pressures of inflation. The question is not whether the United States can afford to permit railroads to charge rates which are realistically related to today's levels of wages, prices and taxes. The question is whether, in the interest of its national strength, the United States can afford not to permit railroads to make such charges."

The alternative to adequate railroad rates and revenues, based upon today's level of costs, is a weakened and debilitated railroad system, Mr. Faricy warned. "That, most certainly, is something this nation cannot afford." he went on. "It cannot afford it in time of peace, when a railroad system financially impaired could not attract the necessary capital for continued improvement. Impaired railroads would mean inadequate service—far more costly than adequate service at compensatory rates. In time of war, or threatened war, the nation can afford even less to permit its railroads to become weakened and impaired through lack of revenues adequate to meet today's necessary costs."

Mr. Faricy concluded by reminding his audience that this country's strength depends on many things: Its political institution of freedom, its industrious and ingenious people and its rich natural resources. "But even with all these, the United States could not produce as it does and live as it does, could not remain in health and strength, without its magnificent system of transportation. The backbone of that system, without which other forms of transport could not have been created and could not be maintained and operated today, is the railroad. The continuance of adequate and economical railroad service depends upon strong and healthy railroads. The strength and health of railroads of the United States so long as they remain privately owned and business operated can be derived only from revenues they collect for their services."

Seizure Called No Guarantee Of Settling Labor Disputes

Government seizure of railroads is no guarantee of settlement of labor disputes, Daniel P. Loomis, chairman of the Association of Western Railways, said on September 18 in an address to the Public Utility Section of the American Bar Association in the Waldorf-Astoria Hotel, New York. Federal seizure does two things, he added — it keeps the public utility in operation rendering essential service to the public and it gives employees work, thereby preventing loss of wages.

"I think it is a fair conclusion," Mr. Loomis continued, "that the average worker does not want to lose wages because of a strike. Even if a strike results in a larger increase than might otherwise be obtained the worker has to work many hours to make up for the loss in wages. This is a simple mathematical fact. A worker making $75 a week who loses two weeks because of a strike which eventually brings him five cents an hour more than could have been obtained without a strike would have to work 3,000 hours at that increase to equal the earnings he lost during the period he was on strike.

"If government fixes the wages and working conditions during the period of government seizure it may be giving aid and comfort to one side or the other and it is still an open question whether either management or labor will accept such wages or working conditions as a means of settling the dispute. In the case of the railroads, a board appointed by the President will already have investigated the dispute and made recommendations for settlement. Is the government then, in case of seizure, to create a new board or commission to review the finding of the President's board? If the government does fix wages and working conditions which result in greater concessions to the unions than could otherwise be obtained, will not the unions be encouraged to resort more and more to the technique of forcing government seizure?"

"Considerable Reluctance"

Because of these considerations, and because of the experience of recent years, railroads after much deliberation decided to support the principle of compulsory arbitration and to favor making reports of Presidential Emergency Boards final and binding for at least a limited period of time, Mr. Loomis said. This decision, he pointed out, was reached with "considerable reluctance and after more than three years of study and discussion. . . The only substitute yet devised which can take the place of the strike or of government seizure is arbitration where both sides are given full opportunity to present all the evidence and argument they wish before an impartial tribunal and where the result is final and binding on both sides. Thus administrative process would be substituted for the law of force and essential public service would be maintained."

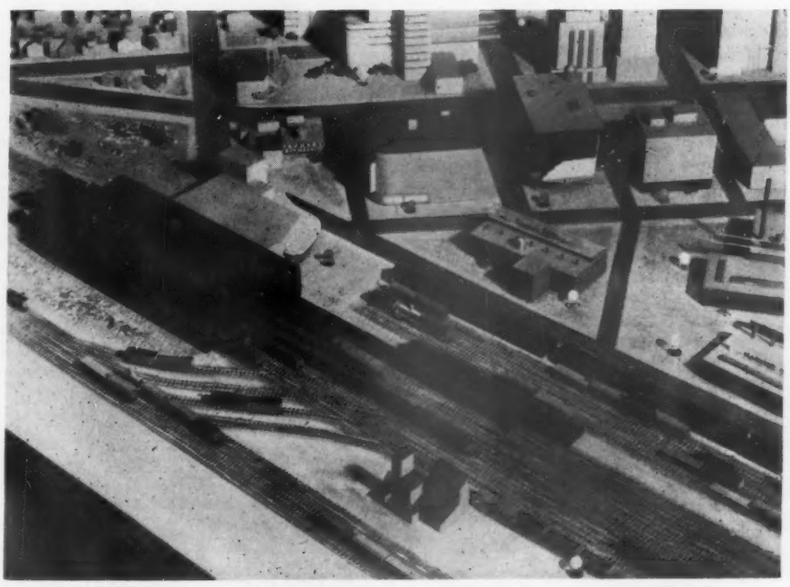
Ex Parte 175 Increase Was Insufficient—Carpi

Railroads, especially those in the east, are denied the opportunity to earn the money to carry out long range programs of maintenance and improvements and to provide the best in the way of facilities as a means of reducing operating costs, Fred Carpi, vice-president—traffic, of the Pennsylvania, said in Pittsburgh on September 13 at a meeting of the Allegheny Regional Advisory Board.

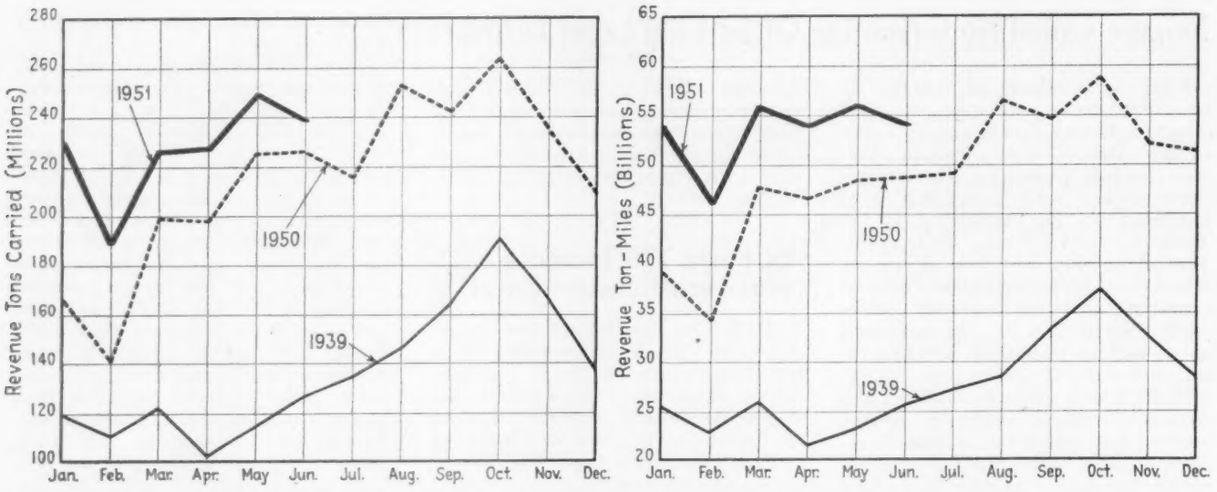
The 7.5 per cent increase in freight rates recently authorized by the Interstate Commerce Commission for railroads in eastern territory is sufficient, he added, "to meet only little more than half the added operating expense due to boosts in wages and the prices of materials in the two years since the last permanent increase in freight rates went into effect."

It is difficult to understand, Mr. Carpi continued, "why the eastern railroads' proposal for a 15 per cent increase was slashed practically in half. The necessity for the increases was never more real, and yet we have to go through a long process of proving what everyone else knows to be true. You simply cannot have—as we so clearly do have—an increase in the wage bill of 140 per cent and an increase in the cost of fuel and supplies of 130 per cent since 1939 while freight rates on the average have increased only 67.6 per cent during the same period, without having a real problem, and today it is a serious one. Indications are that it will grow worse. Improved efficiency is not the answer, for obviously while we are steadily increasing the efficiency of our operation, it is just not possible to meet such pyramiding costs without faster and more adequate action on our prices. No other industry is required to do that."

Railroads, the Pennsylvania official told his audience, cannot continue indefinitely "to provide the class of service that you need and to which you are entitled, on the meager returns of recent years. This problem



THE IMPORTANCE OF RAILROAD TRANSPORTATION to the nation's economy is stressed in an activated diorama in the new reception room of the Hagan building, Pittsburgh, Pa. Sponsored by the Hagan Corporation and its subsidiaries, Hall Laboratories, Inc., and Calgon, Inc., the diorama and accompanying displays are intended to indicate the wide variety of industries served by those companies. The diorama shows the miniature buildings of a model city, with a busy railroad serving its many industrial plants. The pages of a history book turn, to reveal that all the industries, and also the railroad itself, are served by one or more of Hagan's present 17 divisions. The Hagan Corporation, founded in 1918, was the first to design and apply automatic combustion control to steam power plants, including those of a number of railroads. Hall Laboratories, Inc., founded in 1925, are water consultants for many industries, including railroads. Calgon, Inc., founded in 1934, is the manufacturer of Calgon, used for controlling scale and corrosion in water supplies, such as water for boilers of steam locomotives, and of Transglo, a product which is used in cleaning railroad cars



REVENUE TONS AND REVENUE TON-MILES—1951 compared with 1939 and 1950

should be recognized by you, by the public at large, and by the regulatory agencies for what it means to our country's defense and well being. Unless adequate relief is afforded, deterioration will be a natural consequence."

"Railroads are fighting for self preservation," Mr. Carpi concluded. "You may say that self-interest is involved, and it is undeniably so, but the broader question is the survival of free enterprise. None of us should look upon the possibility of nationalization with a complacent eye, dismissing the idea as an impossibility. It can happen here and has happened elsewhere, not only with railroads but with other enterprises. But we can stop it here if all of us continue alert and alive to the necessity of maintaining our railroad industry in a strong position, not only willing but desirous of rendering the best and most economical transportation."

C.P. Takes Over 37 Miles Of Government-Built Track

The Canadian Pacific has taken over 37 miles of railroad newly built for it by the Ontario Hydro-Electric Power Commission to replace a stretch of track which will be flooded by a hydro-electric development. The new trackage, between Mattawa, Ont., and Timiskaming, Que., on the 113-mile branch line to Angliers, Que., goes north from the C.P.'s main line at Mattawa and parallels the Ontario-Quebec border. Rails and fastenings, telegraph lines and poles and some ties will be salvaged from the old line before water flows over the area.

Freight Car Loadings

Loadings of revenue freight in the week ended September 15 totaled 850,812 cars, the Association of American Railroads announced on September 20. This was an increase of 117,904 cars, or 16.1 per cent, compared with the previous week, which included Labor Day; a decrease of 15,846 cars, or 1.8 per cent, compared with the corresponding week last year; and an increase of 107,790 cars, or 14.5 per cent, compared with the equivalent 1949 week.

Loadings of revenue freight for the week ended September 8, which included the Labor Day holiday, totaled 732,908 cars; the summary for that week, as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, September 8

District	1951	1950	1949
Eastern	118,773	127,154	107,337
Allegheny	150,037	156,570	122,612
Pocahontas	55,564	56,564	36,281
Southern	110,138	107,983	92,242
Northwestern	131,575	130,872	113,683
Central Western	109,995	116,294	101,947
Southwestern	56,826	56,012	49,860
Total Western Districts	298,396	303,178	265,490
Total All Roads	732,908	751,449	623,962
Commodities:			
Grain and grain products	43,522	43,313	40,424
Livestock	11,377	9,437	11,934
Coal	131,681	141,256	90,594
Coke	15,584	14,506	9,494
Forest products	41,827	40,609	35,047
Ore	82,567	80,993	62,299
Merchandise l.c.l.	63,104	77,361	72,037
Miscellaneous	343,246	343,974	302,133
September 8	732,908	751,449	623,962
September 1	829,391	851,841	703,934
August 25	838,587	838,665	747,211
August 18	829,398	851,240	731,215
August 11	809,354	847,708	728,029
Cumulative total 36 weeks	27,762,553	25,881,486	25,750,360

In Canada.—Car loadings for the week ended September 8 totaled 73,021 cars, compared with 82,528 cars for the previous week and 78,030 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
September 8, 1951	73,021	30,628
September 9, 1950	78,030	30,473
Cumulative totals for Canada:		
September 8, 1951	2,849,522	1,246,894
September 9, 1950	2,567,194	1,095,143

Beale Becomes Director of N.P.A. Railroad Division

Guy Otis Beale, vice-president—purchases, of the Chesapeake & Ohio, has become director of the National Production Authority's Railroad Equipment Division. Robert L. Glenn, acting director since organization of the division, has become deputy director.

Guy Otis Beale

Mr. Beale was born at Ettricks, Va., September 24, 1888. He was educated in public schools, business college, and the University of Richmond, where he studied law for one year. He entered railroad service in April 1908, as clerk in the office of the C.&O.'s master mechanic at Richmond, Va.

Mr. Beale continued in that position until February 1914, when he became statistician, still in the mechanical department. From September 1917 until May 1919 he was in military service, which included a year's tour of duty in France.

Mr. Beale returned to the C.&O. mechanical department in June 1919, and served there until April 1927, when he became assistant chief

CAR SURPLUSES, SHORTAGES

Average daily freight car surpluses and shortages for the week ended September 15 were announced by the Association of American Railroads on September 20 as follows:

	Surplus	Shortage
Plain Box	215	2,800
Auto Box	0	66
Total Box	215	2,866
Gondola	0	4,444
Hopper	0	3,732
Covered Hopper	0	94
Stock	244	927
Flat	16	556
Refrigerator	2,775	0
Other	303	0
Total	3,553	12,619

clerk to the vice-president—operations. Next, he served, in turn, as assistant chief clerk to the president, chief clerk to the mechanical assistant to the president, and assistant to the assistant vice-president in charge of the mechanical and purchases and stores departments. Meanwhile, Mr. Beale's headquarters had been transferred from Richmond to Cleveland, and in July 1936 he became chief purchases and stores officer of the C.&O., the former Pere Marquette, and the New York, Chicago & St. Louis. He became the C.&O.'s vice-president—purchases in April 1949.

Amortization Certificates Go to Five More Roads

The Defense Production Administration has granted certificates of necessity for accelerated tax amortization of facilities to five more railroads. They were among the first group of certificates issued since Defense Mobilizer Charles E. Wilson requested D.P.A. to impose a general moratorium on such certificates in mid-August.

The Illinois Central and Atchison, Topeka & Santa Fe were granted certificates authorizing fast write-off of facilities completed or acquired between December 31, 1949, and September 23, 1950. D.P.A. gave neither name nor cost of these facilities, but did state that each road is authorized to write off 65 per cent of their cost.

Under the Revenue Act of 1950, which set up the accelerated tax amortization program, a taxpayer was given until September 23, 1951, to obtain certificates on facilities completed or acquired in the 1949-1950 period. Mr. Wilson recognized this in requesting the moratorium on fast write-off certificates, and said exceptions should perhaps be made for industries falling in this category.

The other three roads included in D.P.A.'s list of certificates were the Nashville, Chattanooga & St. Louis (65 per cent of $68,159); Ft. Worth & Denver (65 per cent of $1,937,000); and Colorado & Southern (65 per cent of $2,038,558).

While D.P.A. did not announce the facilities to be built or acquired by the latter three roads, it did indicate that such facilities are "urgently required" in the defense program.

ERIE ENGINEERS, MANAGEMENT, CONGRATULATE ENGINEMAN OF CZECH "FREEDOM TRAIN"

"Railroad engineers on every division of the Erie Railroad join me today in an overseas grip of your courageous hand that opened wide the throttle of your freedom train to bring 111 persons safely through the Iron Curtain into the welcoming terminal of liberty. Free men everywhere will take heart, as will workers now in tyranny, that your courage will prove the pilot engine for others to follow. The Erie management informs me that they have cabled you today $100 to start a fund which we hope will enable you someday to visit your brother railroaders in the United States, who, like you, believe in freedom."

That message was cabled on September 14 by Shirley W. Sherwood, general chairman on the Erie system for the Brotherhood of Locomotive Engineers, to Frazek Jarda, the Czech engineman who, a few days before, had crashed his train through a boundary barrier between Czecho-Slovakia and the American Zone in Germany, to bring himself, his wife and children, and a number of passengers, many of whom knew of his purpose, into the American Zone, where some have been granted asylum as political refugees. The message was sent to Mr. Jarda in care of U. S. Commissioner Joseph J. McCloy, at Frankfort, Germany.

Mr. Sherwood has sent copies of the message to every B. L. E. member on the Erie, and to the brotherhood's national headquarters, with the stated hope of raising a fund which can be donated to Mr. Jarda and his family as a token of appreciation for his dramatic act.

That act has been the subject of wide newspaper publicity; concerning it, the New York Times said editorially, the day before Mr. Sherwood's message was sent:

"Some day, somewhere, there must be a statue to Czech Engineer Frazek Jarda, who came chugging out of Prague into Western Germany. If nobody else builds and contributes to one, our own Brotherhood of Locomotive Engineers ought to do so. Here was one of their own, in a far country, who used the only tools that he had—just a locomotive and four cars—and with the help of who knows how many sympathetic fellow railroaders, made his way to freedom, the sort of freedom that our engineers take as a matter of course. Surely, the first tribute should come from the railway unions of the democratic West. . . ."

MORE NEWS ON PAGE 59

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Alvanley Johnston, Former B.L.E. Head, Dies at 76

Alvanley Johnston, grand chief engineer of the Brotherhood of Locomotive Engineers from 1925 until his retirement last year (*Railway Age*, July 29, 1950, page 45), died at his home in Shaker Heights, Ohio, on September 17. Mr. Johnston was born to American parents in Seeley's Bay, Ont., on May 12, 1875.

He entered railroad service on September 8, 1892, as a call boy on the Great Northern. Advancing to engine wiper, clerk in the master mechanic's office, and fireman, he became a locomotive engineman at the age of 22. From September 1909 until 1918 he

Alvanley Johnston

was general chairman for the B.L.E. on the G.N. In 1918 he was elected assistant grand chief engineer of the brotherhood, holding that position until his election as grand chief engineer.

How Future Plans Should Be Made

For Diesel-Electric Facilities

By F. K. MITCHELL
Manager, Equipment,
New York Central System

Installations will be poorly suited to future needs unless real thought is given to proper planning

Never was it more essential that careful planning precede final action than it is now while most railroads are in the process of substituting diesel-electric motive power for steam. This is true regardless of the size or character of the railroad involved. Unless it is done, any railroad may find ultimately that it is without adequate facilities; that it has adequate facilities at the wrong location; that it has either too many or too few power units, or the wrong type of power for the job it is called upon to do. Unfortunately, some smaller roads that are close to the end of their dieselization program already have found themselves in a quandary which the lack of planning has produced.

Throughout the length and breadth of the United States there may be found now the ghosts of shops and terminals once considered indispensable and later found to be unnecessary.

The gradual change in the character of railroad motive power has been largely responsible for this situation. In most cases the changes which brought on the situation could not be anticipated because of their gradual development. In a few cases failure to detect the possibility of changing requirements being imminent has been responsible for these errors. Regardless of the reason, the change has been expensive and fraught with insidious results, some of which have never been fully recognized. One of these insidious things has been the necessity to disrupt entire communities when a shop or facility is closed. This, of course, cannot be entirely eliminated, but it can and should be minimized. The less there is of it, the greater the economy which will accrue to the railroad company and the less the destruction there will be to the morale of the employees.

We are now faced with the greatest change in the character of motive power that has ever been experienced in the history of the railroad business. Over night, a new transportation tool has been placed in our hands which offers possibilities never heretofore available. The change we are going through in a short period exceeds all the changes since the first steam locomotive was put into service. The chances of error in our preparation to get the most out of this tool are far greater than any which have been experienced in the past. It behooves us,

This article is based upon an address prepared for delivery before the Locomotive Maintenance Officers' Association at the annual meeting in Chicago, September 18.

therefore, to have a definitely clear picture of what we will need in the way of motive power, heavy repair shops, terminal facilities, fueling and sanding stations before we proceed too far.

When Steam Is Gone—What Then?

How will your railroad be operated when we are fully dieselized? This is a problem which cannot be solved without clear thinking by all concerned. It is primarily, of course, a matter for transportation and operating officers to determine.

Generally speaking, we have now had enough experience to know what the new form of motive power can be expected to do. We have a good idea of its capacity to handle tonnage, to produce gross ton-miles, its availability, its fuel and sand requirements, and finally the type and extent of maintenance which will be necessary. Based on these known facts, the problem is: How can we use the diesel-electric locomotive to the greatest advantage and what effect will this have on our operation? We now have a locomotive which, quite in contrast with the steam locomotive, is not limited in its ability to handle trains of any type or size or to operation on one or two divisions, but only to the unit combinations and the territorial areas in which it is found economical to use it. It is obvious, therefore, that, if we assume that we are going to need shops, maintenance and servicing facilities for this type of power in the same locations that were necessary when steam power was involved, we are likely to overbuild or to have facilities in the wrong locations.

In these days the cost of such errors is enormous. Let us assume that we build only one too many maintenance facilities or build it in the wrong place, so that it must be abandoned. If this facility is capable of doing all necessary work on a large group of diesel locomotives between general repairs, we have probably thrown away in the neighborhood of $2½ million. If we build only one too many running-repair facilities, we may have thrown away in the order of a quarter of a million dollars. Even if we install only one fueling and sanding facility that is unnecessary or is improperly located, we may spend $100,000 more than is necessary. To say nothing of the effect on the morale of employees, if it becomes necessary to abandon a facility, all of these useless expenditures emphasize that the plan must be as nearly perfect as it can be made. We must, in planning operations, fix the points at which to place each type of facility with greatest economy. This is the first and probably the most important step in the planning.

How Many and What Kind?

What will be the number and type of diesel locomotive units required ultimately? After the operation plan is completed, based on our knowledge of the capabilities of the diesel locomotive, this step is more or less routine, but for that reason it is nonetheless important and involves some features that must not be overlooked. Primary among these are the types of power most adequate to handle the various kinds of services. The roads which were unfortunate enough to complete, or nearly complete, their dieselization before the road-switchers came into being have already found themselves at a loss to know where to turn for an adequate motive-power unit to handle their local service. Pertinent questions are whether or not the dynamic brake, steam generators, multiple-unit control, train control and other features locally required for the most economic operation must be considered as well as the size and capacity of the various types of diesel locomotive units to be acquired. Any errors in decisions reached on these questions could, of course, be corrected later, but in so doing the cost will no doubt pyramid and during the changeover availability would be materially affected.

Further, it must be determined, particularly on roads where business levels vary widely, how the peaks can be taken care of with the least expense. No road, large or small, can afford to have diesel-electric locomotives standing by with nothing to do, waiting for peak business to develop in either freight or passenger service. Certainly the plan should incorporate as many multiple-purpose locomotives as are necessary to cover the peaks. This is a matter for considered study. Any mistake in one direction may result in a road not having adequate power when it is needed, and a mistake in the other direction may mean an expenditure of some $100,000 for each unit eventually found not to be absolutely necessary.

Fortunately, on most roads the peaks of passenger and freight business do not occur at the same time. Therefore, the dual-purpose or the all-purpose locomotive seems to fill the bill satisfactorily. It is true that, following this procedure, there may be occasions when the available locomotive unit may not be exactly the one which would be selected otherwise. Perhaps in off periods it may be necessary to work a locomotive of greater horsepower than the job would require, or, on the other hand, during peak periods it may be necessary, for instance in passenger service, to use a locomotive not capable of the top speed which normal operation would require. Nonetheless, it is certain that these temporary restrictions will not be prohibitive and will furnish an acceptable medium for getting over the peak. Because of all of these pertinent matters, any road's study as to the ultimate power requirements must, of necessity, be done on a systemwide basis in order to get the greatest use and the most satisfactory performance from a minimum motive-power complement.

How About Shops?

What will the ultimate heavy-repair shop requirements be? There was a time when divisional back shops were a necessity. The development of the steam locomotive and the gradual increase in its availability and its ability to operate satisfactorily over more than one division started a trend toward fewer back shops which has continued through the years. We are now faced with the problem of how extensive the reduction in the number of back shops will be when the dieselization is completed.

Fortunately, it is generally conceded that little change is required to make a steam locomotive back shop of the transverse pit type adequate for general repairs to diesel-electric units. It is quite probable, therefore, that there are more potential diesel-electric back shops available than will be necessary, and if one is not found adequate, a second can easily be converted. It is suggested that the better procedure would be to select the steam-locomotive back shop which is the best located geographically for the load and attempt to do all the required diesel-electric back-shop work at that one point.

The work load on such a shop can be estimated at this time, but it is doubtful whether it can be definitely established for the future. It is sensible to figure that back-shop requirements will grow as the age of the diesel-electric motive-power fleet increases; only time will tell exactly how much that increase will be. Therefore, if the first effort is confined to one shop believed to be adequate, it is well to have another available to take the

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overflow in the future if it is found that the first shop cannot handle the ultimate load.

On the other hand, part of this problem is tied up with the question of what the policy is to be regarding the overhaul of diesel locomotive auxiliaries, such as engines, generators, traction motors, blowers, etc. This policy, once established, will help in the final determination. Any steam locomotive back shop known definitely not to be required for diesel locomotive operation should, of course, be dismantled for economic reasons. If there is any question about whether or not it is to be needed for the new type of power, there should be no question of preserving it until experience permits the answer to the question.

What will the ultimate terminal requirements be? Here the problem is tied up closely to the solution of the operating question, not only with regard to the size and character of the equipment therein, but likewise with regard to capacity for various types of work. Of this type of facility there will probably be more than one basic design. There will be one type, no doubt, capable of completely maintaining diesel-electric units between general repairs. In designing such a facility, it should first be determined from the operation how many units of each type (road, road-switch or switch) will have to be serviced therein. To the extent that operation permits, diesel-electric power may be worked to such a shop for the necessary attention.

No attempt should be made to concentrate sufficient work of this type at one point to require any considerable amount of doubleheading or light movements thereto or from. Therefore, it is important that a facility of this character be located at a point where the available runs in and out are the greatest. The very minimum construction of such facility which may be provided with economy is essential. One of the compelling reasons for this decision is that there must be enough work load at any such facility to permit men trained for specific jobs to have work available for them at all times. Such a situation will be economic and desirable. This type of facility, it will usually be found, cannot be satisfactorily or economically built into an existing steam locomotive terminal, particularly if the latter be the standard steam locomotive roundhouse.

A second type of facility will be required, capable of handling ordinary emergency running repair work which cannot be diverted to a shop of the type first mentioned. This facility, in all probability, will need equipment for dropping wheels and traction motors, overhead crane equipment adequate for head and liner work, and possibly for the renewal of such items as engines or generators. Ordinarily, it is believed that the load in such a shop will more generally be confined to diesel yard power and, perhaps, road-switchers. Such a facility can, if there is one available, be converted from an existing engine terminal. Here again, the number of facilities of this kind which are established should be held to a minimum. Location should depend upon operational requirements, and construction upon whether adequate existing buildings are available.

Servicing and Inspection Needs

There will, no doubt, also be a third type of facility. It should provide an inspection pit but probably need not include either drop-pit or overhead-crane facilities. If climatic conditions are favorable, a building is not a "must" for this type of facility. It may be required because of the isolation of the point and the fact that the power handled has no opportunity to get into a more adequate shop except at intervals, or, on the other hand, it may be required as an inspection station in which it can normally be determined whether the necessary work can be done on the spot or whether the unit must be sent to a more adequately equipped facility. A facility of this minimum type should, of necessity, be either in

the yards or closely adjacent, in order to minimize the turn-around time of all power not requiring extensive inspection or repair work.

What will be the future requirements for fueling and sanding facilities? Quite obviously there must be provision for fueling and sanding in connection with the first two types of facilities mentioned above. With the type of facility last discussed, however, it may not be advisable to have either permanent fueling or sanding facilities.

In some instances it may be found that the fueling can be satisfactorily handled by tank-wagon service or from a fuel car. This same car can be built also to dispense sand, dried elsewhere and supplied to the point by "X" equipment.

Where permanent fueling and sanding facilities are a requisite, the number of tracks served and the capacity provided for fuel and sand must be determined from the character of the operation and the number of units forecast to be dispatched daily. The fuel supply at such a facility should probably be adequate for at least ten days' operation. The sand supply should likewise be adequate for at least ten days' operation.

Whether sand is to be dried locally or at some central point should be determined. Unnecessary duplicating of sanding facilities is expensive and it may be found more economical to dry the sand at a central point, perhaps where the first type of shop is located, and distribute it to facilities of other types in company cars designed for this purpose. Even though dried elsewhere, sand should be dispensed to diesel-electric units from sand towers in the vicinity of the fueling station so that both fueling and sanding can be accomplished without moving the locomotive. The number of outlets will depend on the maximum size of locomotive which is forecast to be handled at the point.

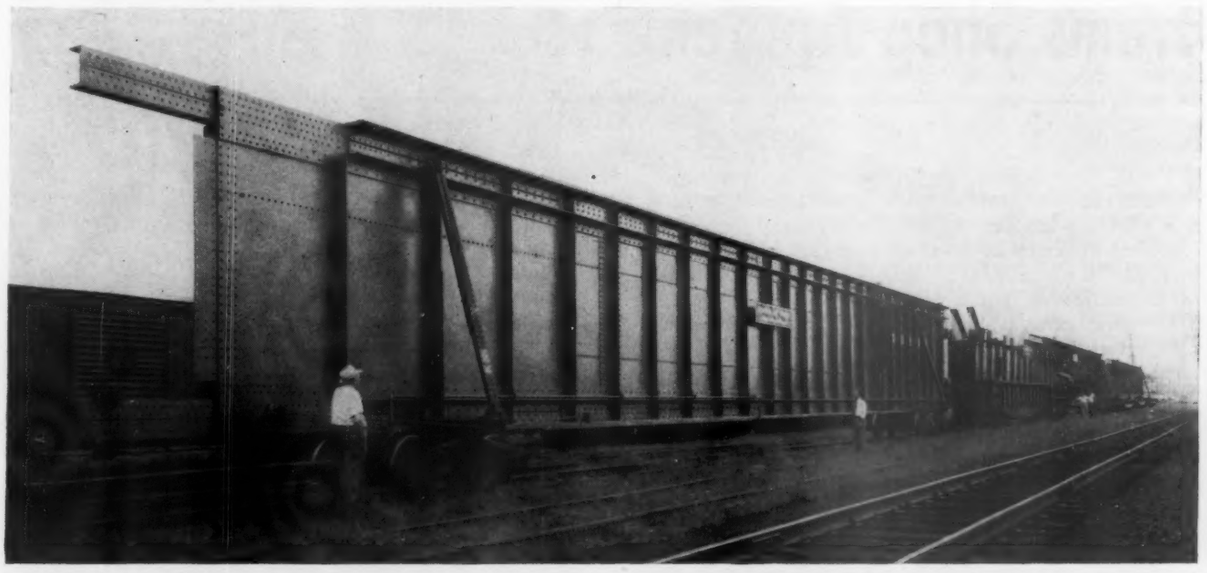
It should not be overlooked that another type of minor facility might be necessary at isolated points where diesel units are laid up over night. Ordinarily, at such points fueling and sanding of diesel units will not be necessary. Where climatic conditions make it advisable, these points should be equipped with standby service for heating diesel units so that freeze-ups will be avoided and relatively easy starting made possible before dispatchment.

Fuel Facilities

What should fuel storage facilities ultimately incorporate? This problem, of course, is dependent upon the operation, the number and type of units, source of supply and other pertinent factors. For years it has been the practice to stockpile coal for steam locomotive consumption in cases of emergency or fuel shortage. There is no less reason to believe that the stockpiling of diesel fuel would be an economic and desirable practice.

Diesel fuel-oil storage tanks and pumping equipment adequate for unloading and loading tank cars must, of necessity, be incorporated in the overall plan. For economic reasons it is essential that these operations be made as nearly automatic as possible, and their capacity should provide at least a 60-day backlog of fuel for the railroad. Their location will depend to a large extent on the center of gravity of diesel usage and on the sources of supply. Such problems cannot be solved by the mechanical department alone, but must be solved by joint cooperation of the transportation, stores, purchasing and mechanical departments.

If all phases of the planning for future railroad dieselization are carefully carried out at this time, the errors will be minimized and the system will work out economically and satisfactorily. On the other hand, if you neglect the planning and allow the system to grow up like Topsy, your headaches in the future will be many and severe. Certainly you can't do today's job with yesterday's tools and expect to have your costs in line tomorrow.



THESE THREE GIRDERS, from 123 to 143 feet long, and weighing from 89 to 107½ tons apiece, actually became parts of railroad cars for recent shipment from the Pottstown, Pa., works of the Bethlehem Steel Company to the Newark, N. J., area. As shown, the ends of the big girders were placed directly on special freight car trucks for the trip. The entire shipment, including floor beams shown in the gondola car, weighed 380 tons; it is all intended to make life easier for the railroads' truck competitors when it is part of the New Jersey Turnpike's Passaic River bridge

How the Alaska Railroad Trains Shop Apprentices

By **REGINALD PERRY**
Information Representative
Bureau of Apprenticeship
U. S. Department of Labor

A comprehensive multiple-trade apprenticeship program is in effect on the Alaska Railroad to expand the number of skilled workmen in the shops and yards. The program is registered with the U. S. Department of Labor's Bureau of Apprenticeship, which assisted the railroad in placing it in operation. It is a joint program, in which the management of the road, the American Federation of Government Employees and the International Association of Machinists are participating. The program is patterned after those established in railroad shops in the United States.*

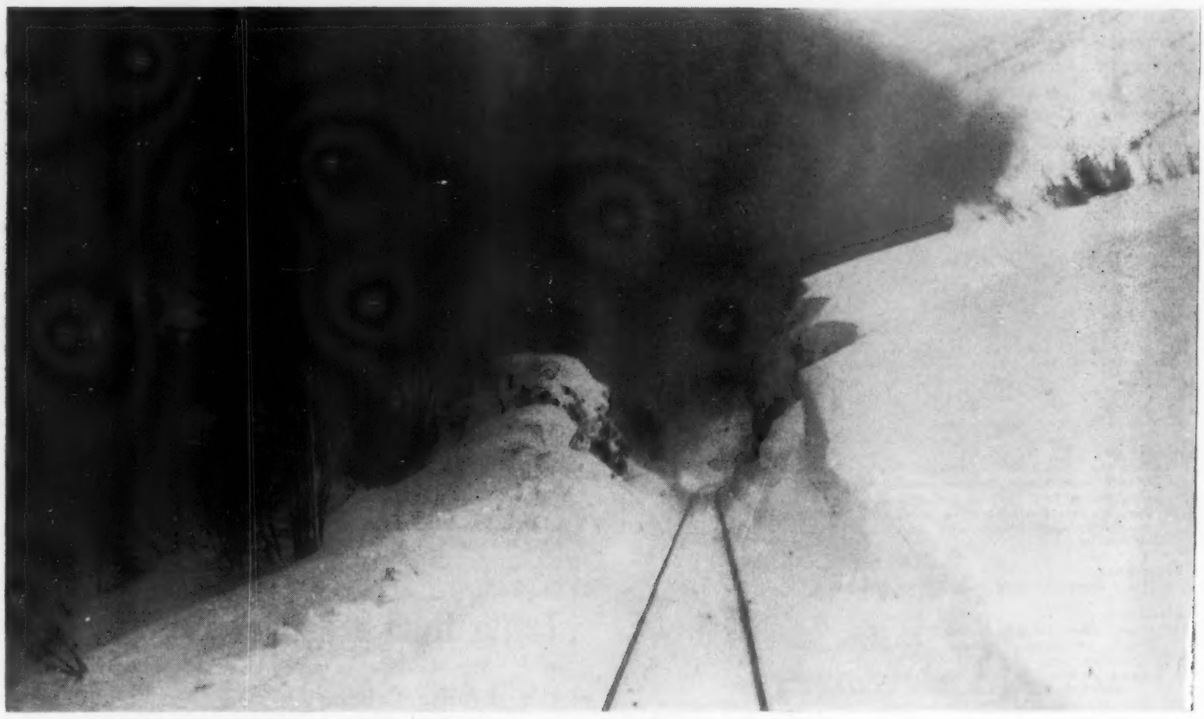
The Alaska Railroad was constructed by the federal government in 1915 at a cost of about $65,000,000, and is operated by the Department of the Interior. It runs from Seward to Fairbanks, approximately 470 miles. It carries 100,000 tons of freight a month, which is about eight times the tonnage in October 1939 and double that of the latter part of World War II. The road has over 2,000 freight cars, more than 90 passenger cars and 362 outfit and work equipment cars. These cars and the 80 or more locomotives, steam and diesel, must be kept in top-notch condition to handle the rapidly increasing load.

Under the program apprentices are trained for craftsmanship in the various trades required in railroad equipment maintenance. The first group in training included five machinist apprentices, five carmen apprentices, four automotive machinist apprentices, three electrician apprentices; two apprentices each in the boilermaker and sheet metal trades; and one each in the blacksmith, steamfitter and painting crafts. It is planned to induct additional apprentices into the program to further increase and maintain the ranks of shop craftsmen. Apprentices in all the crafts have the benefit of thorough training and experience in the shops under the supervision of seasoned workers, as well as classroom instruction in subjects related to the work in the shops.

Cooperating with the management of the railroad in

*A detailed description of the railroad apprenticeship program appeared in *Railway Age*, April 3 and 10, 1948.

Colonel J. P. Johnson, general manager of the Alaska, addressing the first group taking the apprentice training course



Skill and stamina are required to keep this railroad running in all seasons

carrying out the program is an apprenticeship committee, composed of company officers as well as representatives of the two participating unions. This committee is generally responsible for carrying out the objectives of the program. Among its functions are recommending policies relating to the training in the shops and classroom instruction; formulating rules and regulations for administering the program; seeing that each apprentice is adequately trained and properly routed from one series of operations to another; hearing and adjusting any complaints which may arise on the part of apprentices or of those in charge of their training; keeping a record of

the progress of every apprentice; and transmitting reports to the Bureau of Apprenticeship.

Two types of apprentices are employed under the program—regular and helper. Regular apprentices are those with little or no experience, usually high school graduates and ranging in age from 18 to 21. Helper apprentices are those who have had at least two years experience as helpers in the respective shop crafts in which they are to be trained; their maximum age is 28. The minimum term of apprenticeship for regular apprentices is 176 weeks of shop experience plus about 4 hours a week of classroom attendance, or approximately four years. The minimum term for helper apprentices is 132 weeks of shop training and 4 hours a week of classroom instruction, or about 3 years. The time required to complete apprenticeship may be increased or reduced by the apprenticeship committee, depending upon the ability of apprentices.

Among those currently employed under the program, more than half are helper apprentices who were granted credits for past experience in the shops. A large proportion of the regular apprentices also had some previous shop experience, and were granted credits commensurate with that experience. Consequently the railroad will have available in much less than four years, a sizable group of much needed additional journeymen in the maintenance shops.

Apprentice Work Schedule

In each trade apprentices are given all-around experience in the shops in one series of operations to another, under the supervision of foremen or journeymen to whom they are assigned. The work schedule with the approximate time required to master each series of processes is exemplified by that in the machinist trade, which is as follows:

Work Processes	Number of Weeks Regular Apprentices	Helper Apprentices
Erecting Shop:		
General floor work, valve gear, rod bench, etc.	16	12
Work equipment, cranes, ditchers, piledrivers, etc.	12	8
Electric and acetylene welding and brazing	16	12
Machine Shop:		
Radial drill, drill press, tapping, etc.	6	2
Turret, engine, journal, and wheel lathes	26	24
Milling machines, gear cutting, etc.	6	5
Shaper, slotter, planer, internal grinders	11	9
Boring mills, horizontal and vertical	6	4
Tool room and maintenance	8	4
Air Room:		
Overhaul and complete repairs, and adjusting, of air compressors, water pumps, lubricators, injectors, safety valves, air gages, governors, feed valves, power reverse gear, etc. Monthly, quarterly, semi-annual and annual inspection as required by I.C.C.	17	14
Roundhouse:		
Floor work, running repairs and inspections	8	6
Diesel Shop:		
Major diesel engine overhaul	16	12
Truck rebuilding, wheel changes, traction motors, etc.	6	3
Bench work, overhaul fuel system, injectors, turbochargers, air compressors, governors, etc.	8	6
Running repairs, trouble-shooting, tune up, load-testing, etc.	6	5
Rebuilding, diesel unions, laying out, designing new equipment, etc.	8	6
Minimum Requirements, Total Weeks	176	132

The classroom instruction as well as on-the-job training is provided by the railroad. The instructors in the trades have come largely from the ranks of skilled workers and mechanical draftsmen, who have had teaching experience. The curricula for apprentices include blueprint reading, drafting, mathematics, sciences applicable to the trades, and some shop work, as well as safety methods and subjects such as employer-employee relations, the history of the railroad industry and of the industrial and social development of Alaska. The Bureau of Apprenticeship has made available for use by instructors and apprentices the instruction material utilized by the Union Pacific and Western Pacific, which was compiled in cooperation with the U. S. Office of Education.

Apprentices are required to build their own drawing boards and some of the other equipment used in the classroom. Books and other instructional material are furnished by the railroad, apprentices paying part of the cost.

Apprentices earn as they learn. The wage of regular apprentices during the first six-month period of apprenticeship is 76 per cent of the current journeyman rate in Alaska and increases to 90 per cent of that rate during the last six months of the term. The wage rate of helper apprentices ranges from 87 per cent of the journeyman rate during the first period to 93 per cent.

Apprentice Selection and Tests

In view of the skills and versatility required to master the operations performed by all-round skilled maintenance men, careful selection of applicants for apprenticeship is regarded as of utmost importance. Each apprentice must first pass a personnel office Civil Service test. They are then interviewed and examined by members of the joint apprenticeship committee in the respective crafts, by company officers and shop supervisors. All applicants must pass physical examinations.

Before starting his training each apprentice signs an individual apprenticeship agreement which is also signed by the secretary or chairman of the apprenticeship committee, and the superintendent of motive power and equipment. It is then forwarded to the Bureau of Apprenticeship in Washington for registration.

During his training every apprentice is given periodic tests of his work in the shops, as well as in the classroom. As he advances step by step, he is subjected to written, oral and performance tests.

After satisfactory completion of the term of apprenticeship, an apprentice becomes all-round skilled worker in his craft. In recognition of his new status he is awarded a certificate of completion of apprenticeship. This certificate, which is issued by the Labor Department's Bureau of Apprenticeship, has the same significance to an apprentice as the diploma has to students of schools and universities.

Letter from a Reader . . .

His Favorite Column

West Springfield, Mass.

To the Editor:

A great many subscribers, I hope, have commented on the new and improved arrangement of *Railway Age*.

The feature "Literature and Pamphlets offered by *Railway Age* advertisers" is alone worth the price of the magazine.

My favorite feature, however, is the section headed "Books — Periodicals — and Pamphlets."

Harry C. Fletcher
Apprentice Instructor
Boston & Albany

EYE INJURIES

...What One Transportation Department Does About Them

Cinders from coal-burning locomotives and hard carbon from diesel exhaust still must be guarded against

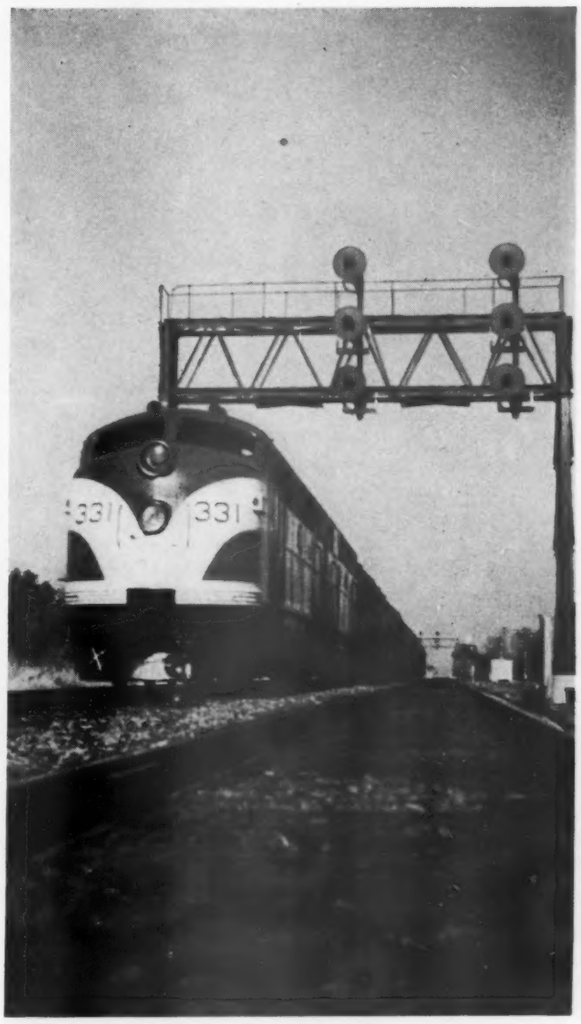
At recent meetings of the Atlantic Coast Line's safety secretaries and safety committee chairmen, speakers stressed the fact that there still is much to be done in the prevention of injuries to the eyes of employees, primarily in the interest of humanity, although management is interested also in eliminating the economic loss incurred when experienced employees are not on the job.

On the Atlantic Coast Line there were 369 eye injuries in 1948, 239 in 1949 and 268 in 1950. In 1948, out of the total of 369, 21 were chargeable [responsible for 72 hours' lost time in the first ten days following the accident]. In 1949 this was reduced to 12 chargeable in 239, and in 1950, 12 in 268. These figures were cited as evidence that Coast Line employees have been educated to the fact that prompt medical attention minimizes loss of time. Approximately 60 per cent of these eye injuries occurred in the transportation department. And during 1950, on the Coast Line's Tampa district, for example, 25 per cent of all chargeable injuries were eye injuries. Speakers used these figures as evidence that there still is room for improvement in the field of prevention of such accidents.

Eye injuries sometimes are called "unavoidable," for the reason that an object out of a so-called "clear-sky" lodges in the eye. It was stressed that many eye injuries are avoidable, and occur because an employee who has placed himself where it would be reasonable to expect foreign objects to be flying around has nevertheless taken no measures to prevent an accident. Supervisors, in daily contacts and in rule and safety meetings, can educate the employees to think about eye safety, it was emphasized. The result will be that men without eye protection will not allow themselves to get into places where they will be subject to an eye injury. Supervisors can also encourage the older, more experienced employee to watch out for—and be helpful to—the newer, more inexperienced men. One speaker asked, how often does the supervisor consider how much valuable experience is lost by the retirement or death of a trained employee, unless that man has been able to pass along to others experience gained through years of doing his job in the proper manner?

When all trains were powered by coal-burning locomotives employees within range of cinder deposits reported for work with goggles, especially designed to keep their eyes free from foreign matter. Today, perhaps because most railroads, are becoming heavily dieselized, these same employees are becoming negligent, it was pointed out. They misplace their goggles or leave them at home. They are, apparently, developing a feeling that goggles no longer are needed. Even with diesel power, employees on trains frequently receive eye injuries, most of which are caused by objects blown from other trains. Attention was called to the fact that crews on diesel-powered trains seem to lose sight of the fact that, on most roads, they still "meet" coalburning engines which still throw cinders.

Engine service employees can help mightily in reducing eye injuries to themselves and others, said speakers at the A.C.L. meetings. For example, in switching operations firemen can help reduce eye injuries by shoveling coal in steam engines only when necessary, and by



Hard carbon from diesel exhausts can injure the eye

This article is based largely on two papers, one presented at the Atlantic Coast Line's recent annual safety secretaries' conference by R. L. Lightfoot, trainmaster, Tampa district; the other presented at the A.C.L.'s annual safety committee chairmen's meeting by M. L. Chastain, acting superintendent, Birmingham and Brunswick districts.

Photo courtesy David H. Noble

Goggles protect against cinders from coal-burning locomotives

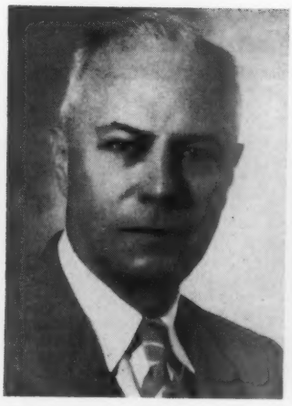
"blowing out" diesels in locations where there are no employees or other persons on the ground in the vicinity of the engine. Good housekeeping on engines also is absolutely necessary if eye wounds are to be eliminated. Dirt and trash on the floor of an engine are "certain to be blown about" and create a condition which could lead to possible wound, it was pointed out. Employees, either train or engine service men, or others, riding in trailing units of diesel locomotives, never should stick their heads out a window to look ahead unless the eyes are goggle-protected, declared a speaker, who observed that the hard carbon from diesel exhaust stacks can cause an eye injury as easily as can cinders from a coal-burning "steamer."

Rear end crews, too, should use special care in checking their moving trains with heads out the open window, for dust or rock particles will be flying about, as a result of the movement of the train. If the caboose is not equipped with a windshield, trainmen should use goggles or be extremely careful in looking ahead with head out the window, it was emphasized. Sweeping of the caboose —or of the engine, for that matter—always should be done while the train is standing.

An accident cannot be undone. The best "remedy" for an eye injury, of course, is to see that it does not happen, but should such an injury occur, supervisors should make sure that proper care and treatment is given to the sufferer, speakers remarked. It is true that a small object in the eye can feel as large as a mountain and anyone so afflicted will want it removed immediately, but it was urged that no one ever should permit another person to dig or gouge in the eye with a pencil, dirty handkerchief or stick. In the event that foreign matter lodges in the eye, that organ immediately is flooded with tears in an effort to cleanse itself. If this fails, it was emphasized that the aid of a physician should be sought. The Coast Line has reduced the number of chargeable eye injuries by insisting that employees, even though along the line of road, report to a company doctor as quickly as possible, particularly in the case of cuts or serious injuries. A few minutes thus spent often saves the man from pain and loss of time, the safety officers were reminded.

All supervisors who have men whose occupations involve hazards to the eyes were warned by the speakers to take every opportunity to: (1) urge these men to wear their goggles; and (2) teach them to take advantage of every other precaution possible to prevent injuries of any kind. Because the employee will be the chief beneficiary of his own interest in safety, his interest can be enlisted in obtaining compliance, it was pointed out.

A TEN-GALLON HAT is the eye-stopper for Missouri-Kansas-Texas advertising displays appearing in all Katy ticket offices throughout the Southwest. Here Harry F. Tate, Jr., Katy advertising agent, checks details of one of the displays before it is sent out. The "hat" theme will characterize all forthcoming Katy local and national advertising



Left to right: D. W. Fuller, chairman; E. S. Taylor, vice-chairman; and R. H. C. Balliet, secretary

Economics and New Practices Considered at

Annual Meeting of A. A. R. Signal Section

New practices to save train time and reduce operating expenses were discussed at the annual meeting of the Signal Section of the Association of American Railroads, held at the Edgewater Beach Hotel, Chicago, September 10, 11, and 12. D. W. Fuller, signal engineer Eastern Lines of the Atchison, Topeka & Santa Fe, presided as chairman at this convention, which was attended by 732 members representing railroads and manufacturers, in addition to 318 ladies as guests. This attendance is larger than at any previous meeting of the section.

In addition to opening remarks by Chairman Fuller, the program included addresses by J. H. Aydelott, vice-president, A.A.R., and T. A. Blair, chief engineer, system, of the Santa Fe, and president of the American Railway Engineering Association. Reports presented by 10 of the standing committees of the Signal Section dealt with specifications, requisites, standard drawings and other technical details, of interest primarily to signal engineers. The reports of three committees dealing with highway crossing protection, economics of signaling, and signaling practice, are abstracted below, because they deal with subjects of broader interest.

Chairman Fuller, in his opening address, gave a few suggestions based on his years of experience in the signaling field. When dealing with engineering problems, he said, the railroads must give thought to economy, but it is poor policy to hold the reins so tight that good results are prejudiced, or the possibility of doing work economically is precluded.

Mr. Fuller went on to point out that the United States and Canada are with minor exceptions the only region in the world where railroads are privately owned and privately managed, and despite some shortcomings, the American railroads are the best in the world. The reason, he said, is that the promise of profit is the motivation which stirs men.

Mr. Blair gave a brief outline of the damage suffered by the Santa Fe from the floods in Kansas during July. He stated that modern grading and track equipment was used effectively in restoring the track. To his surprise, he said, in all instances, signal forces were able to restore the signaling to service as soon as the track was ready. He encouraged similar cooperation between the respective sections of the A.A.R., pointing out that the Signal Section and the Engineering Division (A.R.E.A.) had mutual interest in certain specifications and economics.

Mr. Blair said that in the past year he had had many contacts with the A.A.R. laboratory in Chicago, and that he knew of no signal investigations being carried on in that laboratory. "I appreciate," he said, "that this is due to the fact that the signal manufacturers and the railroads are conducting research, but the time may well come when some of the signal research should be carried on in the A.A.R. laboratory."

"The railroads are truly an arm of the national defense, and therefore, must continue strong against serious odds," said A.A.R. Vice-President Aydelott. "A constant fight has been required to secure allocations of steel, copper and aluminum for the manufacture of equipment needed by the railroads. As hourly wage rates have advanced, the use of labor-saving machines, centralized traffic control, heavy rail, diesel locomotives, and a greatly augmented fleet of modern freight cars becomes a 'must' for the railroads, if operating expenses are to be kept down and service to the public is not to be impaired, but improved.

"In the field of signaling, progress has been slow but quite spectacular to those of us who are familiar with the results which have been obtained. Signal men in the past two decades have been faced not only with the necessity for expanding the mileage of protected track, but of modernizing the existing plant at the same time. Programs are suspended or greatly curtailed because low earnings compel such action. However, during a national emergency when earnings will support a large program, limitations on manpower and materials prevent it being

undertaken. In the mobilization period through which we are now passing, material shortages are becoming more critical and may limit signal construction, much of which promises further economies in operation and maintenance."

Economics of Signaling

One of the reports presented by the Committee on the Economics of Signaling indicated that a saving of 57.9 per cent, over and above 6.5 per cent interest and depreciation, had been made by the Milwaukee on nine installations of highway crossing protection, involving a capital investment of $101,605. The reduction in operating expenses was $61,171 annually. Other advantages include: (1) dependable 24-hour automatic operation; (2) uniform and more effective protection; and (3) increased safety for both street traffic and train operation.

One of the advantages of modern signaling systems is to reduce the number of train stops. To place a cash value on the saving thus effected, the committee developed a report on the costs involved in stopping trains hauled by diesel-electric locomotives. For example, one of the curves in the report indicates that 12 gallons of fuel oil would be consumed by a diesel in starting a train of 2,345 tons and accelerating it to normal speed of 47 m.p.h., on level tangent track. Other charts relate to varying grades, locomotives and weights of trains. Previous reports prepared by this committee show costs involved in stopping trains hauled by steam locomotives.

Highway vehicles—such as automobiles and lightweight panel trucks—are provided by the Milwaukee for 18 of its signalmen who maintain highway crossing signals, small interlockings and other signal equipment at isolated places over extended mileages on branch lines, where travel time is an important factor. The average maintainer in this group has 224 miles of railroad; he travels an average of 1,489 miles per month with his truck on highways, at an average cost of $0.051 per mile. Some of the advantages of providing highway vehicles for use of maintainers are: (1) reduction in traveling and waiting time, overtime and personal expenses; (2) elimination of necessity for securing train line-ups with attendant delays and complications; (3) reduction in mileage due to ability to make cross country trips, and to follow more direct routes; (4) ability to reach points having limited passenger-train service, or none; (5) greater capacity for carrying tools, supplies, material and men; (6) faster coverage of territory, permitting more time for inspection and maintenance; (7) greater mobility in case of storms, accidents or other trouble; (8) ability to cover adjoining maintainer's territories in case of emergency; (9) operation under adverse weather conditions; and (10) partial offset of time lost due to 40-hour week.

In numerous instances installations of centralized traffic control have eliminated train stops to the extent that locomotives can handle increased tonnage. In order to place a money value on this benefit of C.T.C., the economics committee presented a report including tables and a formula for estimating train-miles saved, due to increased tonnage. This report includes tables listing for each of 78 railroads the items included in freight service cost per ordinary train-mile, including wages of crews, fuel, supplies, locomotive repairs, etc. The costs per train-mile on different roads vary from about $2.10 to about $8.50.

Modern signals get trains over the road in less time. Another report of this committee is couched in terms of hour value, which varies depending on local conditions, overtime involved and other items. One of the studies includes a formula whereby any railroad can calculate cost per freight train-hour. I.C.C. account classification numbers are used so that any road can insert its own figures for these expenses. On one road, the overtime rate for train and engine crews on through trains is $11.77 per hour, and for local freights $14.44. Other costs such as train fuel, lubricants, enginehouse expense and locomotive repairs, totaled $35.88 per freight train-hour on one railroad.

Modern signaling, such as C.T.C., has been the means of postponing the installation of sections of second track, or in some instances, second track has been removed where centralized traffic control has been installed on the remaining single track. To show savings in such

instances the Committee on Economics has prepared two reports: one to show track and roadway maintenance expense per equated mile of track; and the other to show the effect of various classes of track on taxation. One table listing 78 railroads shows the total track and roadway maintenance expense for 1949 per equated track mile which varies from a low of $1,043 on one road to a high of $8,469 on another road. The state and local taxes per mile of track operated varied in 1949 from a low of $261 to a high of $4,205.

Other reports presented by the committee include summaries of economic advantages and references to detailed information on various subjects including: (1) grade and tonnage signals, (2) highway crossing protection, (3) car retarders, (4) consolidated interlockings, (5) automatic interlockings, (6) train operation by signal indications, (7) spring switches and (8) centralized traffic control.

The development of improved principles and practices in the arrangement and controls of signals has been assigned to the Committee on Signaling Practice. For example, various railroads have used different signal arrangements to protect spring switches. In an effort to standardize practices, the committee has set forth requirements for protection at spring switches. Another report, including drawings, explains in detail the arrangements of signals and control limits in the absolute permissive block system and the overlap system as applied on single track with automatic block signaling.

Another report deals with the use of automatic recording devices for checking the operation of wayside signals and train movements. Forty railroads are using a total of 167 installations of recording devices at interlockings. Seven other installations are used for indicating train speeds. Sixty-four recorders are in service in centralized traffic control territories. Other new and improved signaling devices reported by this committee include: (1) stainless steel terminal for rail-head bonds, (2) improved megger tester, and (3) a new machine which applies rail bonds with hydraulic pressure rather than by hammer blows.

Increased speed and volume of highway traffic give rise to new problems concerning the installation and control of flashing-light signals and gates installed by railroads to warn highway vehicle drivers of the approach of trains at crossings. For this reason, the Committee on Highway Grade-Crossing Protections has been working on revisions of requisites for automatic gates, flashing-light signals, "No-Left-Turn" signs, and the controls of these various devices. These recommendations deal not only with the equipment, but also with the operation of trains as well as safety to the public.

Track and B. & B. Men Meet Concurrently

Conventions of the Roadmasters' and Bridge and Building Associations at the Hotel Stevens considered timely committee reports and heard addresses on current conditions

What economies are produced by the use of weed eradicators and what advances have been made in this field in recent years? How can the productive time of track maintenance forces be increased? What are the most effective methods of protecting steel bridges against brine drippings? What have been the effects of the 40-hour week on bridge and building maintenance? How can the railroads assure themselves of an adequate supply of men qualified for promotions to section foremen? These and many other questions facing supervisory officers in the railroads' track and bridge and building departments received attention last week during the concurrent annual conventions of the Roadmasters' and Bridge and Building Associations, which were held at the Hotel Stevens, Chicago, September 17-19.

These conventions were held separately, for the most part, but as has been the practice for several years, because of the common interests of the two groups, several joint sessions were held, one on Monday morning, September 17, the opening day of the meetings, and one on Tuesday afternoon. Sharing in the direction of these joint sessions were C. Halverson, president of the Roadmasters' Association (general roadmaster, Great Northern, Willmar, Minn.), and W. A. Huckstep, president of the Bridge and Building Association (general building supervisor, Missouri Pacific, St. Louis, Mo.). Mr. Halverson presided over the separate sessions of the Roadmasters' group, and Mr. Huckstep over those of the B. & B. Association.

Preliminary features of the opening session included greetings on behalf of the American Railway Engineering Association by its president, T. A. Blair (chief engineer system, Atchison, Topeka & Santa Fe, Chicago), the Track Supply Association by President R. W. Torbert (Oxweld Railroad Service Company), and the Bridge and Building Supply Association by President R. R. Clegg (American Lumber & Treating Co.). Lewis Thomas (Q & C Co.), secretary of the Track Supply Association, also spoke briefly at the joint opening session, inviting members of the two associations and members of their families to attend the annual banquet on Tuesday evening, which was sponsored by the two supply associations.

Mr. Blair, referring to the floods in the Kansas-Missouri area in July, stated that, because of the heavy track construction in vogue today, and the need for pro-

viding temporary structures capable of carrying present-day heavy power, the work of reconstruction in such instances is much more difficult now than ever before. However, the track and bridge officers who supervised the restoration work organized the efforts of their forces so efficiently and made such effective use of machines that traffic was restored in less time than would have been required in former years.

Aydelott Speaks at Opening Session

The principal address at the joint opening session was by James H. Aydelott, vice-president, Operations and Maintenance Department, Association of American Railroads. Mr. Aydelott was a little apprehensive that difficulties facing the railroads in the country's mobilization period "may somewhat restrict the activities in your particular field as time passes." Furthermore, he said, there is a financial problem because of the railroads' failure "to secure an increase in their charges commensurate with additional costs that have been thrust upon them through higher wage rates, increased costs of material and increased taxes." He implied, however, that traffic volume may partially offset these increased costs.

Because the money needed to assure adequate railroad earnings is not to be forthcoming in the required amounts through increased charges, "it will be necessary," said Mr. Aydelott, "for each department of the railroads to secure the utmost in economies in the operation and maintenance of the railroad plant." While material shortages may impose obstacles in obtaining the necessary maintenance tools and machines, "it is hoped," he continued, "that a program of mechanization, which has had such worthwhile results thus far, may be continued, although it may take somewhat longer to get delivery of these machines than heretofore." Mr. Aydelott told his listeners they may depend on the manufacturers of roadway machinery "to work diligently to maintain their normal rate of production, and that we in the A. R. R. will assist them in all possible ways should they find it necessary or desirable."

J. H. Aydelott, vice-president, Operations and Maintenance Department, Association of American Railroads, making the principal address at the joint opening session

Mr. Aydelott spoke of the necessity of making a thorough cleanup of scrap or obsolete material at the end of the maintenance season to secure scrap for the national defense program. He urged maintenance men to motorize their gangs as one way of adding to the productive time. Pointing out that the carriers were operated in 1950 with 440,000 fewer employees than were required in 1929, he observed that if these additional employees had been on the payroll last year the added annual cost to the railroads would have been $1½ billion, or double the amount of their net railway operating income. He then traced in detail the factors behind the improved efficiency of the railroads, stressing the need

The joint opening session on Monday, September 17, of the combined groups

The separate sessions of the Roadmasters' group were directed by President C. Halverson, general roadmaster of the Great Northern at Willmar, Minn.

W. A. Huckstep, president of the Bridge and Building Association, presided over its sessions. He is general building supervisor, Missouri Pacific, St. Louis, Mo.

for continued programs for improving the physical properties.

Kiley Extols Mechanization

At the joint session on Tuesday afternoon the principal speaker was J. P. Kiley, president of the Chicago, Milwaukee, St. Paul & Pacific, whose subject was Today's Challenge to Railway Maintenance Officers. Speaking of the great steps that have been taken in mechanizing maintenance work, Mr. Kiley inquired as to "how many of you could have foretold only a few years ago that *practically every step* in the laying of rail would some day be done with machinery? Or that stone ballast would be dug up, cleaned and replaced by machines at the rate of a mile or more an hour?" Predicting that there will be even more mechanization in the future Mr. Kiley then raised the question whether "our manpower is keeping up with all these mechanical improvements? Is our productivity rising in proper proportion to the railroads' huge investments in labor-saving devices?" In these days of sharp competition with other forms of transportation, he continued, the highest possible productivity is essential to enable the railroad industry to meet—and beat—that competition and maintain the leading position it has always held in the bulk transportation field.

In Mr. Kiley's opinion the work of the maintenance of way and bridge forces has never been as important as it is at present, and he thinks it will become even more important as time goes on. He went on to point out that railroad track has come to be "a scientifically designed structure and more and more care is required to maintain it to the required high standard. Our track forces must be equal to this task. The need for capable men to train as foremen perhaps was never greater than it is at present." He urged that the associations make a continuing study of this problem.

Guy E. Martin (left), president-elect of the Bridge and Building Association, and A. H. Whisler, president-elect of the Roadmasters' group. Mr. Martin is superintendent water service, Illinois Central, and Mr. Whisler is assistant engineer, Pennsylvania

Referring to "pessimistic" comments that men nowadays tend to shirk responsibility and lack the spirit of loyalty and cooperation Mr. Kiley observed that there have always been such men. He firmly believes that "we have young men coming up with just as much capacity for hard work and loyalty as the foremen you rely upon today on your own railroads."

Another feature of the joint session on Tuesday after-

Representing the Eastern Bengali Railway at the meetings was M. L. Ghaze, deputy general manager, who came all the way from Chittagong, Pakistan

noon was a round-table discussion of the problems of rehabilitation encountered following the recent record floods in Kansas and Missouri, and of the methods used to solve them. R. H. Beeder, assistant to chief engineer of the Santa Fe, was the moderator of this discussion. Also, during the same session, the sound motion picture in color, "Song of Mid-America," was presented. This picture was produced by the Illinois Central to commemorate its centennial year.

The program of the separate sessions of the Roadmasters' Association consisted primarily of the presentation of six technical committee reports on the following subjects: Economies Derived from Use of Weed Eradicators; Benefits to Be Derived from Properly Educating or Instructing Maintenance Personnel; Proper Operation and Maintenance of Roadway Machines and Work Equipment; Proper Care of New Rail to Increase Its Service Life; Economies to Be Realized in Handling of Ties; and Planning Required to Increase Productive Time of Maintenance Forces.*

Another feature of the Roadmasters' program was an open forum discussion of the problem of employing and retaining men capable of becoming section foremen. George M. O'Rourke, assistant engineer maintenance of way of the Illinois Central, was the moderator of this discussion, which brought out the opinion that the narrowing differential between the pay of laborers on the one hand and track foremen on the other, combined with seniority regulations governing promotions in the track department, was discouraging young and promising men from seeking employment in that department. Another important feature on the Roadmasters' agenda was an address by C. L. LaFountaine, general safety supervisor of the Great Northern, on The Importance of Safety in Track Maintenance. Among other things, Mr. LaFountaine emphasized the importance of the proper use of line-ups in assuring the safe operation of motor cars.

Committee reports also comprised the backbone of the separate sessions of the Bridge and Building Association. The subjects of these reports were: Construction and Maintenance of Diesel Fueling Facilities; Developments in the Use of Laminated Timbers; Economies in Maintenance and Operation of Heating Plants; Fire Protection of Bridges, Trestles and Culverts; Accident Prevention in Maintenance and Use of Work Equipment; Protection of Steel Bridges Against Brine Drippings; Comparative Economies of Materials for Building Exteriors; and Effects of the 40-Hour Week on Bridge and Building Maintenance.*

The Bridge and Building sessions included a special program commemorating the association's sixtieth anniversary. Nine past-presidents of the association were present. An unusual feature was the playing of a wire recording of remarks by the oldest living past-president of the association—J. P. Canty, retired assistant to the engineer maintenance of way of the Boston & Maine. Mr. Canty is 86 years old and served as president of the association in 1908-09.

During the three-day period a total of 681 members of the two associations and 370 guests registered at the meetings, the aggregate attendance being 1,051 members and guests. This compares with a registration of 1,159 members and guests during the 1950 conventions, when an exhibit of manufacturers' products was held by the Track Supply Association and the Bridge and Building Supply Association. There was no exhibit this year.

Election of Officers

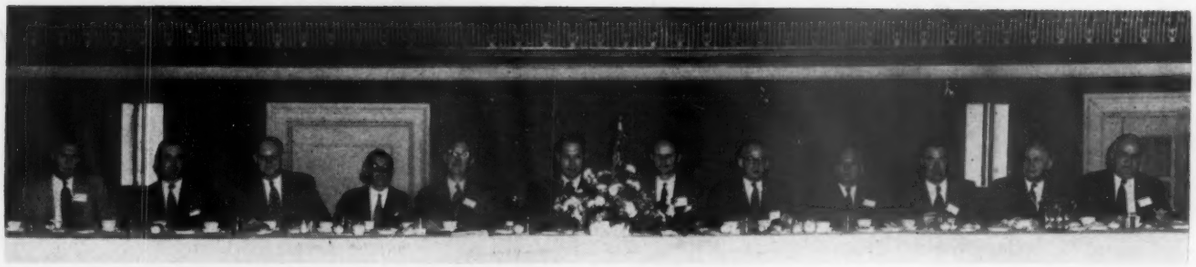
In the election of officers in the Roadmasters' Association A. H. Whisler, assistant engineer, Pennsylvania, Philadelphia, Pa., was advanced from first vice-president to president; R. H. Gilkey, division engineer, Central of Georgia, Savannah, Ga., was advanced from second vice-president to first vice-president; F. G. Campbell, chief engineer, Elgin, Joliet & Eastern, was advanced from director to second vice-president; and E. E. Crowley, roadmaster, Delaware & Hudson, Albany, N. Y., was re-elected treasurer. Directors elected were E. L. Anderson, chief engineer, St. Louis-San Francisco, Springfield, Mo., and E. F. Snyder, assistant to chief engineer, Illinois Central, Chicago.

New officers elected in the Bridge & Building Association were Guy E. Martin, superintendent water service, Illinois Central, Chicago, who was advanced from first vice-president to president; F. R. Spofford, assistant division engineer, Boston & Maine, Dover, N. H., advanced from second vice-president to first vice-president; Lee Mayfield, resident engineer, Missouri Pacific Lines, Houston, Tex., who moved up from third vice-president to second vice-president; H. M. Harlow, assistant general supervisor, bridges and buildings, Chesapeake & Ohio, Richmond, Va., promoted from fourth vice-president to third vice-president; J. A. Jorlett, assistant engineer, Pennsylvania, New York, who was advanced from director to fourth vice-president; and L. C. Winkelhaus, architectural engineer, Chicago & North Western, who was re-elected treasurer. Directors elected were L. R. Morgan, fire prevention engineer, New York Central, Detroit (re-elected); B. M. Stephens, assistant chief engineer, Southern Pacific Lines in Texas and Louisiana, Houston; and W. H. Huffman, division engineer, Chicago & North Western, Chicago.

On Wednesday afternoon, following the close of the regular sessions, a considerable portion of the Roadmasters' group took part in a bus trip to a point near Joliet, Ill., to inspect the welding and laying of continuous rail on the Elgin, Joliet & Eastern. At the same time the Bridge and Building group inspected the testing facilities of the Underwriters' Laboratories, Inc., at Chicago.

* All the Roadmasters' technical committee reports will be reproduced verbatim in the October issue of *Railway Engineering and Maintenance.*

* The technical committee reports presented during the Bridge and Building sessions will be reproduced in full in the November issue of *Railway Engineering and Maintenance.*



The speakers' table at the September 13 luncheon session

The First Annual Traffic Conference

Unexpectedly heavy attendance for lively panel dicussions of current issues

The American Society of Traffic and Transportation has come of age.

Its First National Transportation Conference and Seminar attracted over 550 traffic men and women to the Chicago campus of Northwestern University on September 13 and 14. This attendance was nearly double what the society's officers had anticipated and as a result, larger quarters for the luncheon and dinner sessions had to be sought at the last minute. So smoothly was this change of plans carried out however, that few of those attending were aware of what had happened.

The conference symbolized the culmination of 30 years planning and discussion by leading transportation men and industrial traffic managers. It was just five years ago that the society itself was founded to bring to the traffic and transportation field a code of ethics and standards of knowledge comparable with those of professional societies in other fields of endeavor. The society has clearly designated the Chicago conference as the *first*. Planning and preparation for the second is already under way and it is the goal of the society that these conferences will become regular annual affairs.

Because it was the first, the conference was planned more as a survey of the entire field of transportation and traffic management rather than a meeting ground for those wishing to discuss fine points within a specific topic. This sort of thing will be undertaken in the succeeding conferences.

To survey the world of traffic and transportation, the society planned each of the general sessions so that it included a featured speaker and a panel of "old hands" who gave their views on the subject assigned. So lively were the question-and-answer sessions that followed each of these panel presentations that the moderators had to invoke time limits in order to keep the conference anywhere near on schedule. Highlights from two of these panel discussions follow in condensed form. The third was devoted to the topic "Transportation and National Defense." Included on that panel were Kenneth L. Vore, director, Military Traffic Service, Department of Defense; W. S. Rainville, Jr., executive assistant, Defense Transportation Administration; Beatrice Aitchison, transportation economist, Bureau of Transport Economics and Statistics, Interstate Commerce Commission; and William E. Hayghe, director, Traffic Management Division, General Services Administration—all of Washington, D. C.

Warns of "Thought Control"

"Our public thinking is being "conditioned" for "all sorts of schemes by a veritable army of government employees whose sole business is to popularize projects upon which public money may be spent," warned Kenneth F. Burgess, attorney and president of the university's board of directors, at one of the luncheon sessions. "The shibboleth of 'Tax, tax, and tax; spend, spend, and spend; elect and elect' has become the accepted dogma of political action," he said. Mr. Burgess told of the life of John Evans, pioneer builder of railroads, hospitals and industry who was one of the founders of Northwestern University. "John Evans," he said, "was grounded in what today is called free enterprise and which some of

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In the photograph at the top of the page are, left to right: K. H. Jamieson, secretary-treasurer of the society and assistant to g.t.m., Eastman Kodak Company, Rochester, N. Y.; Dr. Russell N. Cansler, director of evening division of Northwestern University School of Commerce; Dr. M. H. Umbreit, professor of business economics, Northwestern University; W. H. Stebbings, Institute of Transportation, London, England; Dr. G. Lloyd Wilson, director of education for the society and chairman, Department of Transportation and Public Utilities, University of Pennsylvania, Philadelphia; Dr. Weldon B. Gibson, guest speaker, chairman, Business and Industrial Economics Department, Stanford Research Institute, Stanford, Cal.; Stanley Berge, professor of transportation, Northwestern University; Charles H. Vayo, president of the society and general traffic manager, Eastman Kodak Company, Rochester; E. G. Plowman, vice-president of the society and vice-president—traffic, United States Steel Corporation, Pittsburgh; Walter F. Mullady, director of the society and president, Decatur Cartage Company, Chicago; H. A. Hollopeter, director of transportation, Indiana State Chamber of Commerce, Indianapolis; and Robert J. Bayer, director of public relations of the society and editor, Traffic World

our planners and public control propagandists would have us believe is passé and an outmoded heritage of a bygone age. What would he and other young men of his day have accomplished if they had been restricted by processes of regimentation and doctrines of so-called liberalism bordering upon socialism and even communism itself?"

"There is a rumor I wish to rest," said Delos W. Rentzel, under secretary of commerce for transportation speaking at the society's first annual banquet on September 13. "I have heard it said that the newly organized office of under secretary of commerce for transportation is the beginning of a process of administrative evolution which will bring together under one head, all federal regulatory responsibilities over all forms of transportation. None of this is true. The under secretary has no regulatory powers and seeks none. These powers remain within the confines of the separate agencies governing the separate forms of transportation. There should be no misunderstanding about the powers and duties of the under secretary; they are clearly set forth in the president's reorganization plan which created the position. In fact, in this period of our federal development, it is most important that the different regulatory agencies now vested with interest and regulatory powers in aviation, surface transportation and maritime affairs remain separate and independent of each other." Mr. Rentzel added, however, that a consolidation of regulatory functions might become more desirable as time passed. He urged a closer relationship between the different types of carriers for "greater cooperation and to help resolve mutual problems."

At the conclusion of the conference, the society held its annual meeting and elected the following as regional vice-presidents for the coming fiscal year:

New England Region—R. G. Henderson, freight traffic manager, New York Central, Boston, Mass.

Trunk Line Region—Walter J. Kelly, vice-president, traffic department, Association of American Railroads, Washington, D. C.

Central Freight Ass'n. Region—William S. Nevius, director of traffic, Wyandotte Chemicals Corporation, Wyandotte, Mich.

Southern Region—Louis A Schwartz, general manager, New Orleans Traffic & Transportation Bureau, New Orleans, La.

Western Trunk Line Region—E. C. Nickerson, general traffic manager, Chicago & North Western, Chicago, Ill.

Southwestern Region—Leland Smith, traffic manager, Consolidated Chemical Industries, Inc., Houston, Tex.

South Pacific Region—John W. Witherspoon, ass't. general traffic manager, United States Rubber Company, Los Angeles, Cal.

North Pacific Region—Russell V. Boyle, traffic manager, Brown & Haley, Tacoma, Wash.

Canadian Region—Stuart B. Brown, manager transportation department, Canadian Manufacturers Association, Toronto, Ont.

PANEL: *TRANSPORTATION REVENUES AND FREIGHT CLAIMS*

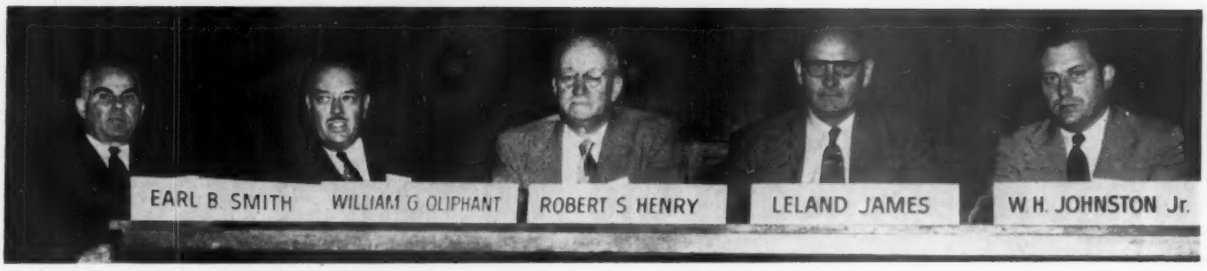
ARTHUR H. SCHWIETERT.—*It's the shipper who pays.*—More than 10 per cent of net income was paid out in 1950 for loss and damage claims against the railroads. The motor carriers' figure was nearly 30 per cent. Because freight claims are paid out of freight revenues (the passenger business seldom paying even its own cost), shippers are actually paying these losses themselves. Claim prevention therefore, is rightfully a shipper—as well as a carrier—responsibility. Claim payment statistics are misleading because they do not take into account clerical costs to both carrier and shipper, economic losses to shipper and receiver through disruption of sales and production schedules, or manpower and material waste to the nation. No commodity is too delicate for safe transit in properly designed packing. To help track down poor packing, consignees should always report full details of damage and loss to the shipper as well as to the carrier. *(Mr. Schwietert is director of traffic for the Chicago Association of Commerce & Industry.)*

HEBER SMITH.—*Claim prevention work pays off.*—On the Southern Pacific we are currently spending 10 per cent of our claim payment figure for prevention work. Through this work our claims have dropped on local haul damage from 6.6 per cent per 100 shipments handled in 1948 to 1.5 per cent in 1950. But the roads that spend this time, effort and money to cut loss and damage are actually being penalized by those who do not. The tight car supply has made the claim prevention job quite difficult because of postponed repairs and the use of cars unsuited for specific shipments. Shippers can help through careful packaging and stowing. With the alarming increase in salvage sales, losses for partial damage are going 'way out of line. Shippers should, wherever possible, effect repairs so their products may reach their original-intended markets. To ask carriers to dispose of partially damaged merchandise is uneconomic because carriers just aren't merchants. *(Mr. Smith is freight claim agent of the Southern Pacific and chairman of the Freight Claim Division of the Association of American Railroads.)*

ROBERT J. BAYER.—*In the freight claim picture the carriers and shippers are intertwined.—(Mr. Bayer was moderator for the panel. He is the editor of Traffic World.)*

J. R. MATHEWS.—*Flood losses rate banner headlines, but the motor carriers' $30 million annual claim loss goes unnoticed.*—The margin of profit for motor carriers is small. A $20 claim for concealed loss or damage can nullify the profit on a 24,000-lb. load moving 300 miles. An active employee education and claim prevention program therefore is essential. Cartons and drums—excellent containers for products for which they were designed—are utterly inadequate for shipping other products later. They should never be re-used. Exception reports should be unrelentingly specific if they are to be of any value in tracking down damage causes. Shippers should never admonish receivers to deal only with carriers for claims. Packaging or manufacturing processes may be at the root of the claim cause and the receiver—who is interested only in salable merchandise—may take his business elsewhere. *(Mr. Mathews is chairman of the National Freight Claim Council, American Trucking Associations.)*

PANEL: *CARRIER RATES AND SERVICES*



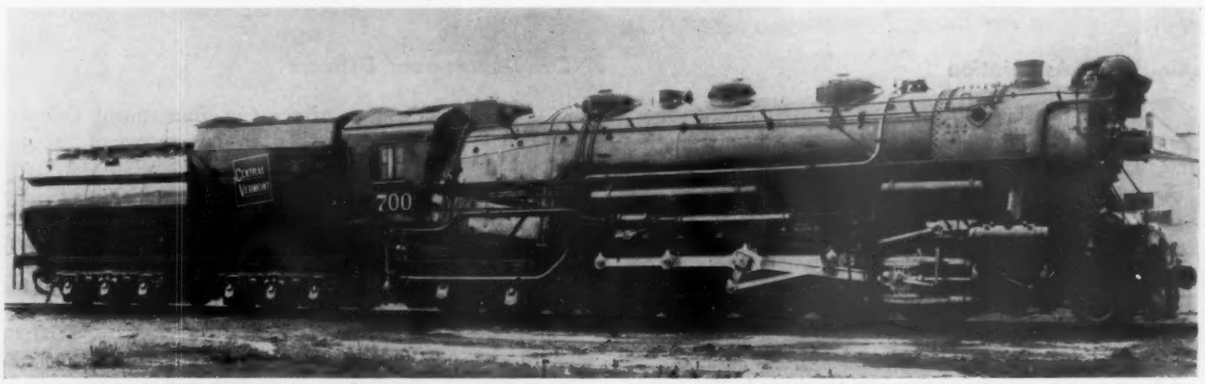
EARL B. SMITH.—*(For the Shippers).*—The fact that we now have the greatest transportation system in the world—with the best service at lowest cost—has caused many to take far too much for granted regarding its continuance. Complacency and apathy of this kind are dangerous not only to our transport industries but to the welfare of all users of transport as well. Every major form of transport should serve in its proper place and each must be in a position to finance necessary improvements. So essential is the railway that the public cannot long tolerate serious and continuing inadequacy. If for any reason private sources of railroad capital disappear, this country, in the public interest, would soon be compelled to take its first long step toward the nationalization of industry. We users can help by being broadminded, constructive and fair in our approach to problems involving rates and charges. We must lend our efforts to the development of a national transportation policy in which the government will treat all agencies of transport with reasonable consistency. Present practices will lead to government ownership and the nationalization of our other forms of transport will inevitably follow. *(Mr. Smith is vice-president—traffic, General Mills, Inc.)*

WILLIAM G. OLIPHANT.—*(For the barge lines).*—Personally I am not in favor of continuing subsidy. There should be a method of establishing a terminating point once the subsidized transport system has had a chance to develop. The time is fast approaching for a thorough study of the subsidy question with a view to the advisability of discontinuance. Notwithstanding the desirability of financing transportation through charges imposed on the users, such a goal is beset with many difficulties. The great difficulty with levying user charges for the use of inland waterways is that there is no clear allocation of costs between that portion of the waterway which is devoted to flood control and that which is devoted to navigation. In many cases hydroelectric power also enters the picture. If navigational user costs could be clearly totaled, they should rightfully be assessed. At the present time there are 1,500 self-propelled and 6,000 non-self-propelled units in service on the inland waterways of the U. S. *(Mr. Oliphant is general traffic manager of the Federal Barge Lines.)*

ROBERT S. HENRY.—*(For the railroads).*—Of all the forms of transport, only the railroads can and do haul anything and everything. And they do so at the lowest cost. They are the only privately owned transport system in the world and no other system approaches their output per man-hour and per dollar of investment. They are compelled to do business under unequal competitive conditions. In the best interests of shippers, passengers and the nation as a whole, these inequalities must be brought to an end so that each form of transport may be dedicated only to those tasks at which it is the efficient performer. *(Mr. Henry is vice-president—public relations, of the Association of American Railroads.)*

LELAND JAMES.—*(For the motor carriers).*—The function of the motor truck as an independent form of transportation and as a corollary of our rail, air and waterway systems has become of vast and major importance. Let the trucks stop rolling and our whole mass distribution and mass production system will collapse. Let the trucks stop rolling and our partners in transport—rails, planes and ships—will bog down—and quickly. We are the connecting link between all forms of transport, the shipper and the consignee. The flexibility of truck transport has speeded decentralization in the U. S. There is a direct connection between our national prosperity and our rounded-out transportation service. We have truly modern transport, for here alone the shipper can take his choice of rail, water, air or truck—and we have more trucks than all the rest of the world put together. *(Mr. James is president of the American Trucking Associations and of Consolidated Freightways, Inc.)*

W. H. JOHNSTON, JR.—*(For the airlines).*—Air transportation is no different than any other type of business. It should operate on the simple American principle of profit and loss with sound and efficient management dependent on no outside financial assistance. Many airlines have reached the age of 25. Their growth may be traced to unceasing labor to produce a superior transportation product and to aggressive merchandising and sales campaigning. There is no immediate prospect of air freight rates being substantially reduced in the near future. But there is, nevertheless, a tremendous field for traffic development at present rates by selling on the principles of reduced inventory, faster turnover, decreased cost of packaging, insurance, overhead, interest, etc., for the shipper. That two to three per cent of rail freight traffic that lies in the merchandise transport field represents the only possible portion of present railroad freight traffic open to diversion to air freight. *(Mr. Johnston is secretary and assistant to the president of American Airlines.)*



THIS CENTRAL VERMONT steam locomotive, said to be the largest and most powerful operated in New England, will be christened "Norwich University" on October 6 as a highlight of the school's railroad pageant at Northfield, Vt. The pageant will mark the 100th anniversary of graduation from Norwich of Gen. Grenville M. Dodge (see news pages)

What Happened at the Mechanical Meetings

Reports and addresses dealing with mechanical and electrical problems of cars and locomotives—Attendance over three thousand

Addresses by J. P. Kiley, president of the Chicago, Milwaukee, St. Paul & Pacific before the Car Department Officers' Association; by L. W. Horning, vice-president, personnel and public relations of the New York Central, before the Railway Fuel & Traveling Engineers' Association; by F. K. Mitchell, manager-equipment of the New York Central, before the Locomotive Maintenance Officers' Association; and by D. V. Gonder, assistant vice-president—operations of the Canadian National, before the Master Boiler Makers' Association, were outstanding events of the first day's sessions of the five Coordinated Mechanical Associations, and the Electrical Sections, Association of American Railroads, meeting at Chicago on September 17, 18 and 19. Registration for the six railroad groups and the members of the Allied Railway Supply Association at the end of the first day totalled 3,003.

Four associations participated in joint sessions during the meetings. On Monday the Railway Fuel & Traveling Engineers' Association was joined by the Air Brake Association for a discussion of passenger and freight train handling and the operation of dynamic brakes. On Wednesday the Electrical Sections joined the Locomotive Maintenance Officers' Association for consideration of a paper on the New York Central's investigation of wheel slip on diesel-electric locomotives.

In conjunction with the meetings there was an exhibit of mechanical devices at the Hotel Sherman embracing the products of 110 manufacturers under the auspices of the Allied Railway Supply Association.

Air Brake Association

The two outstanding themes at the Air Brake Association meetings were the development of information for the maintenance of 24-RL locomotive brake equipment for road diesel locomotives, and the maintenance of car brake equipment in freight service, the latter subject including the effects and prevention of leakage.

It was pointed out that there are a minimum of 51 points from which leakage can occur in a charged brake system. Of these, 27 are in the brake pipe, leaving 24 points, 17 of which are in the AB valve itself, to be included in what is known as brake-system leakage. All of these may be on the reservoir side of the feed grooves, with the result that any leakage occuring at these 24 points is not taken into account by the brake-pipe leakage test. Such leakage therefore increases the air flow into the train only when the brakes are released and are charged.

Two papers not included on the original schedule were presented, one dealing with the standardization of diesel-locomotive brake equipment, which was the work of a committee under the chairmanship of C. E. Miller of the New York Central. The second extra paper was by R. L. Wilson, chief engineer, American Brake Shoe Company, and it described recent developments in brake shoe performance.

The standardization paper was essentially a progress report of a committee set up by the Air Brake Association to work up information on standardizing the location and application of diesel brake equipment. The information gathered was based on experience with some 12,000 diesel units, and after approval by the association will be processed through a similar committee of the A.A.R. and made available to the A.A.R. Committee on Diesel Standardization.

The following officers were elected to serve for the coming year: president, K. E. Carey, general air brake instructor, Pennsylvania; first vice-president, R. F. Thomas, general air brake instructor, Canadian Pacific; second vice-president, C. V. Miller, general supervisor of air brakes, New York, Chicago & St. Louis; third-vice-president, D. R. Collins, superintendent of air brakes, Denver & Rio Grande Western; and secretary-treasurer, L. Wilcox. No new executive committee members were elected.

Car Department Officers

The annual meeting of the Car Department Officers' Association brought together a large group of car department officers and supervisors from coast to coast to discuss such diverse subjects as freight-car interchange, billing and loading rules, air-brake maintenance, lubrication, wheel-shop practice, preparing freight cars for higher commodity classification, air distribution in air conditioned passenger cars, and paint materials for passenger cars.

In addressing the opening session, J. P. Kiley brought words of encouragement and challenge to the men responsible for car design, inspection and maintenance in both freight and passenger service. He pointed out that, whereas railway men in many departments contribute

to train operation, the rolling stock would not be on the rails at all without car men who are now faced more than ever before with the urgent need to find better ways of doing things.

Mr. Kiley mentioned the intense competition confronting the railroads today and said that major efforts to give industry constantly improved freight service and passengers ever more speed, comfort and convenience must not be allowed to slacken, even if some railroad problems might be simplified thereby. For example, present hot-box difficulties are, no doubt, partially due to stepped-up speeds in freight service, and speed reduction would, of course, help reduce hot boxes, but this solution would be an admission of defeat and unthinkable to any red-blooded railroad man. Mr. Kiley remarked that, but for the efforts of conscientious car men, railroads would have even more hot boxes to deal with than at present, and yet these men, by more intensive servicing of plain-bearing journals, or other appropriate means, must do their full share to minimize hot boxes, now causing so many train delays, disrupted freight schedules and attendant costs.

Mr. Kiley said, "It is certainly true that car men can't do the best job for the railroads unless real coordination exists.

"While it is the duty of people in the operating department to get trains out of terminals and over the line, they defeat their own purposes if trains are handled in such a way as to damage cars. A coupler or its attachment damaged, a waste grab due to rough switching that can mean a hot box out on the line, a car end broken or bent due to shifted lading—all these inevitably mean delay in yard or on the line. Coordination wins on the football field, and the same thing wins on a railroad."

Mr. Kiley mentioned the problems of car men in servicing and maintaining complex modern passenger cars, including air-conditioning equipment, which the public likes and hence must be kept functioning properly. He suggested that car supervisors continue their good work in maintaining car conditions which will minimize loss and damage claims, and closed his remarks with an earnest appeal for all car men to assist in railway public relations work whenever and wherever possible in their contacts with shippers and the general public.

The following officers were elected to serve for 1951-1952: President: W. N. Messimer, general superintendent equipment, Merchants Despatch Transportation; vice-presidents: A. H. Keys, superintendent car department, Baltimore & Ohio, R. Schey, general superintendent car department, Nickel Plate, J. F. Likarish, master car builder, Great Northern, and E. E. Packard, district master car builder, Southern Pacific; secretary-treasurer: F. H. Stremmel, assistant to secretary, A. A. R. Mechanical Division.

Electrical Sections

Joint sessions of the two Electrical Sections of the A.A.R. were called to order at 10:00 a.m., September 17, at the Hotel La Salle, by H. F. Finnemore, chief electrical engineer of the Canadian National, and chairman of the Electrical Section, Engineering Division, A.A.R. First-day registration included 130 railroad men and 143 members of the Railway Electric Supply Manufacturers Association.

Having welcomed members and guests, Mr. Finnemore described the value of the reports to be presented and encouraged discussion. He said that the proposed amalgamation of the two electrical sections had now been endorsed by both sections and would be brought before the board of directors of the A.A.R. for approval. The consolidation will require the services of a full-time secretary, and if approved, will become effective January 1, 1952. Mr. Finnemore particularly emphasized the importance of bringing in younger men to increase the membership.

L. C. Bowes, electrical engineer of the Rock Island and chairman of the Electrical Section, Mechanical Division, A.A.R., laid stress on the responsibility of railroad electrical departments and said that air conditioning alone had doubled previous electrical maintenance requirements, and that diesel-electric locomotives have done much more to increase them. To this, he said, maintenance had been added by shop equipment.

Most of the electrical equipment, Mr. Bowes pointed out, is highly specialized and requires much in the way of carefully selected and trained men. He asked section members to recognize their responsibility when called upon to be members of a committee.

Officers of the Electrical Section, Mechanical Division, were elected to serve during the 1951-52 period as follows:

Chairman, H. C. Paige, assistant mechanical engineer, New York, New Haven & Hartford; first vice-chairman (west), R. I. Fort, assistant research engineer, Illinois Central; second vice-chairman (east), C. W. Nelson, electrical engineer, Cheasapeake & Ohio. Members of committee of direction: P. H. Verd (west), superintendent motive power, Elgin, Joliet & Eastern; and E. J. Feasey (east), general supervisor, diesel equipment, Canadian National.

Officers of the Electrical Section, Engineering Division, are to be elected later in the year by letter ballot.

Locomotive Maintenance Officers

During the three-day meeting, in addition to the presentation of the technical reports, addresses were delivered by F. K. Mitchell, manager, equipment of the New York Central system and Edward W. Davidson, director of the Bureau of Locomotive Inspection of the Interstate Commerce Commission. Mr. Mitchell's address appears elsewhere in this issue.

Mr. Davidson, in discussing safety in relation to diesel locomotives, made a special plea for more thorough inspection of diesel wheels and brake rigging and a number of other locomotive appurtenances that are causing trouble, as well as better "housekeeping" on diesel power as a fire-prevention and accident-reduction measure. He concluded, in part: "We of the Bureau of Locomotive Inspection stand ready to assist in any way to effect improvement in safety on railroads. That is our job. We have certain duties in the enforcement of the law and in inspection of locomotives and an obligation to determine that they are 'in proper condition and safe to operate', but as you know we do not like to find unsafe conditions. We much prefer to be able to give a terminal a clean bill and the personnel at that terminal a pat on the back for a job well done than to prepare a long list of defects and perhaps a few red cards."

President Paul H. Verd, superintendent motive power of the Elgin, Joliet & Eastern, mentioned, in the opening session, that the increasing number of diesel units and the pressure of increasing costs were changing the ideas of many roads with respect to maintenance and that careful planning must now be done.

During the meeting life memberships were awarded to W. T. Faricy, president of the A.A.R., and J. H. Aydelott, vice-president, operations and maintenance department of the A.A.R.

Except for one report on steam locomotive terminal operation and a report on personnel training, all of the

other eight reports dealt with some phase of diesel maintenance.

Of incidental interest is the fact that the paid membership of the L.M.O.A. is now over 3,200 making it one of the largest associations in the railroad industry.

The following officers were elected for the ensuing year: President, H. H. Magill, superintendent motive power, Chicago & North Western; first vice-president, S. M. Houston, assistant general superintendent motive power, Southern Pacific; second vice-president, F. D. Sineath, assistant general superintendent motive power, Atlantic Coast Line; third vice-president, T. T. Blickle, mechanical superintendent, Coast Lines, A. T. & S. F.; fourth vice-president, J. T. Daley, superintendent motive power, Alton & Southern; secretary-treasurer, C. M. Lipscomb, assistant to schedule supervisor, Missouri Pacific. E. K. Bloss, mechanical superintendent, Boston & Maine, was elected to the Advisory Board and W. E. Lehr, superintendent motive power, Lehigh Valley, F. W. Bunce, superintendent motive power of the Milwaukee, and A. L. Wright, superintendent equipment, New York Central, were elected to the executive committee for one-year terms.

Master Boiler Makers

With his "Eye to the Future" address, D. V. Gonder, assistant vice-president-operations of the Canadian National, set the theme of the thirty-fourth annual meeting of the Master Boiler Makers' Association. Facing the fact that the boilermakers' craft is adversely affected by the rapid dieselization of the railroads, Mr. Gonder presented several suggestions for new opportunities. He told the members they should improve themselves by studying labor relations, by knowing accounting procedures and how to allocate material and labor costs, and by looking around for work in which the experience and craftsmanship of the boilermaker can be utilized by the railroads. Some of the new fields suggested were parts of diesel locomotive maintenance, the fabrication of structural members, stationary boilers, and steel car work.

The association started its "looking-to-the-future" program by changing its constitution to make railroad welding and water service supervisors elegible for active membership and to hold office, these two classifications having been restricted to active boilermakers in the past. It proposes to strengthen its future programs in these two fields that are closely allied to the work of the boilermaking craft.

President R. W. Barrett, chief boiler inspector, Canadian National, presided at the meeting.

New officers elected for the following year are, president, H. C. Haviland, supervisor of boilers, New York Central; vice-president and chairman of the executive board, H. R. Barclay, general boiler inspector, Northern Pacific; secretary of executive board, F. R. Milligan, general boiler inspector, Canadian Pacific. A. F. Stiglmeier was re-elected secretary-treasurer. Also re-elected as members of the executive board are R. A. Culbertson, general master boiler maker, Chesapeake & Ohio; Benjamin G. Kantner, general boiler and welding supervisor, Reading; and F. E. Godwin, system chief boiler inspector, Canadian National. A. A. Edlund, assistant general boiler inspector, Chicago, Milwaukee, St. Paul & Pacific, was elected as a new member of the executive board.

Railway Fuel & Traveling Engineers

For Mr. Horning's address the members of the Railway Fuel and Traveling Engineers Association were joined by many from other groups. Too often, he said, industry has not applied to its human relations the same degree of effort and skill that it has used in dealing with mechanical aspects. As a result, understanding between management and employees, and between management and the public, has suffered, with all three parties being the losers.

He felt that one of the most pressing concerns facing the railroad industry today is the winning of better public relations through its employees. Those in or near the front line of supervision are in a strategic position for reaching the broad ranks of employees, who in turn can exert great power on behalf of good public relations.

Railroads need favorable relations with the public because they face aggressive competition and because they are subject to control by agencies of the public. These can be fostered by employees other than those in direct contact with the public—engine crews, for example, by the way they handle both freight and passenger trains and by the way they observe smoke control regulations. All employees—as members of their community—can help shape the opinions of their friends toward their company. They can do this when they come to look upon themselves as auxiliary public relations men, and to accept public relations as part of their job.

The best way to get a man to do something is first to get him to want to do it, and there are two ways of accomplishing this in so far as public relations consciousness is concerned. First, share the knowledge of what the railways face in general, and what his particular employer is up against. Second, do not ignore the essential community of interest between labor and management.

Getting the railroad to take an active part in public relations is not making him over into something that he wasn't before, Mr. Horning remarked. Rather, it serves as a means to guide and assist him in realizing a further potential in the interest of himself and his company. The value of this is realized by the men's own labor union which last year joined with representatives of management in a joint draft which affirmed the industry's need for public good will and the advantage to the employee in helping his company to attain it.

The program of this association—like those of the others, dealt largely with various aspects of diesel locomotive operation and the training of locomotive operating personnel. Problems relating to the efficient use of coal and oil in steam locomotives were dealt with, however, in two papers.

The following officers were elected to serve during the next year: president, R. H. Francis, general road foreman equipment, St. Louis-San Francisco; vice-presidents: R. D. Nicholson, road foreman engines, New York, New Haven & Hartford, W. H. Fortney, chief road foreman engines, New York Central, and E. L. Reeves, trainmaster, Baltimore & Ohio. The following were elected members of the executive committee: T. H. Bickerstasf, general supervisor air brakes, Atchison, Topeka & Santa Fe; T. L. Henley, chief fuel supervisor, Missouri-Kansas-Texas; F. G. LaMaster, assistant fuel supervisor, Chicago, Burlington & Quincy; R. R. Rich, road foreman of equipment, Chicago, Rock Island & Pacific; J. S. Swan, supervisor locomotive operation, Louisville & Nashville; and C. R. Patterson, fuel supervisor, Canadian National.

GENERAL NEWS

Express Agency Would Cut Postal Weight Limits

A. L. Hammell, president, and K. N. Merritt, traffic vice-president, of the Railway Express Agency, appeared September 18 before the House Committee on Post Office and Civil Service to urge enactment of a bill, H.R.3465, to reduce the weight and size limitations of parcel post shipments. The present limits are 70 lb. and 100 in. in combined length and girth.

The bill would reduce the girth and length limit to 72 in., and fix weight limits generally at 40 lb. for packages moving in the first and second zones, and 20 lb. for those moving three to eight zones. However, present limits would remain on parcels mailed for delivery at any third- or fourth-class post office or on any rural route; and on parcels mailed at such points.

R.E.A. President Hammell reminded the committee that when the parcel post service was established in 1913 the weight and size limitations were established at 11 lb. and 72 in. He asserted that it was never intended that operation of the service would be supported by tax contributions; and that a large portion of the $350 million deficit incurred by parcel post in the past five years has resulted from the handling of large and bulky shipments.

"When it became necessary after the war to increase express rates to partially meet the increased costs of producing express service, there followed a substantial reduction in our business which has continued up to date," Mr. Hammell went on. "The 1946 volume of 231 million shipments has been reduced to 80 million, a decrease of more than 65 per cent. We now have but 45,000 employees whereas in 1946 we had 85,000. Not only the 40,000 expressmen who have lost their jobs have little hope of returning to them, but the remaining employees live in constant anxiety about the security of their jobs."

Mr. Hammell also called attention to the fact that the proposed new limitations would not affect farmers or residents of small communities.

Vice-President Merritt developed the R.E.A. position in considerable detail, urging that the Post Office Department be taken out of the "freight" business. He asserted that parcel post at present is "nothing less than nationalized transportation."

A companion bill to H.R. 3465 has already been passed by the Senate. It is S.1335.

Erie Completes Main Line Radio

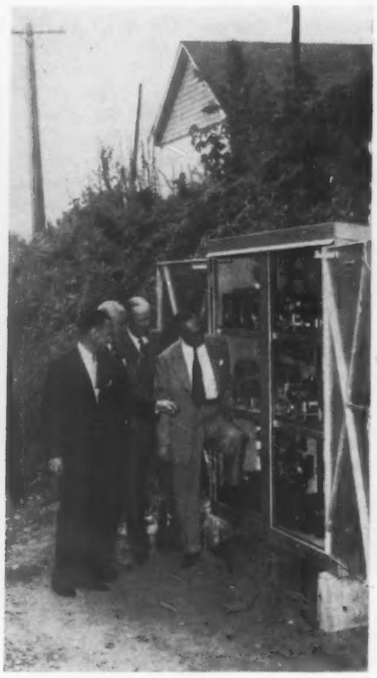
The Erie's four-way train radio-telephone system, the first to cover the entire main line of any railroad, has been completed between New York and Chicago, Paul W. Johnston, president, has announced.

In a simultaneous message announcing the 100 per cent coverage to all operating train crew personnel, Mr. Johnston dedicated the newly completed radio system to "increasing safety, dependability and efficiency" in railroading. He telephoned the message from his office in Cleveland to the 1,882 enginmen, firemen, conductors, brakemen and dispatching personnel operating trains along 1,150 miles of main-line passenger and freight route between New York, Buffalo and Chicago. It traveled via telephone wires to the Erie's 11 dispatchers, and was broadcast via radio from the 60 wayside transmitting stations along the route to all trains operating throughout the system.

The Erie's radio-telephone communication system, first introduced on three divisions in July 1948, is a four-way installation. It permits conversations between (1) locomotive cab and caboose; (2) two moving trains within radio range; (3) moving trains and wayside stations, and (4) adjacent wayside stations.

The radio system functions through 342 transmitting and receiving stations, including 60 base or wayside stations, 214 in diesel locomotives and 68 in cabooses. The base stations are located according to topographic conditions, with radio ranges of from six to 30 miles, so that coverage of one station overlaps those of adjacent stations. This arrangement eliminates any possibility of trains operating out of range of the radio system.

In addition to the main-line radio-telephone communications service, the Erie utilizes radio in many other operations. In New York harbor, where the railroad operates 261 vessels to move freight between piers, docks and ships, all tugboats are equipped with radio for constant con-



IN A SPECIAL September 12 demonstration (reported in *Railway Age*, September 17), the Long Island displayed to public officials and press representatives its new automatic speed control. Above, Frank H. Simon, general manager (at microphone), explains the installation; at the right, Mr. Simon (left), describes features of it to members of the Long Island Transit Authority—Tracy S. Voorhees, George E. Roosevelt and William H. Draper, Jr., L. I. trustee

tact with the dispatcher at Jersey City. Freight yards and switch engines at Hammond, Ind., Marion, Ohio, Chicago, Jamestown, N. Y., and Meadville, Pa., are also equipped with radio. Work is underway at yards in Buffalo, N. Y., Youngstown, Ohio, and Sharon, Pa.

"Radio-telephone communication has become an integral and effective factor in the safe, dependable and efficient operation of the Erie's transportation system," Mr. Johnston said. "It has helped to prevent accidents and delays in train movements. By its ability to bridge the gap between crews in moving trains and station personnel, every moving train is virtally under the control of the dispatcher on the division through which it is operating."

B.R.T. Ends Strike on Birmingham Southern

Mediation proceedings conducted by Chairman Leverett Edwards of the National Mediation Board resulted last week in arrangements for the return to work of Birmingham Southern employees who had been on strike since August 30. The employees involved are represented by the Brotherhood of Railroad Trainmen, and the dispute involves their demand for an air-hose rule which would give train crews extra pay for coupling and uncoupling air hose. The issue was not settled in the return-to-work arrangements which did provide, however, for further negotiations with respect to the matter.

P.R.R. Testing Automatic Food Sales on Trains

What is said to be a new idea in food service on trains — fresh sandwiches, pastries, candy, ice cream, milk and coffee dispensed by automatic coin-operated machines — is being tried out by the Pennsylvania.

Homes Bannard, manager of the Pennsylvania's dining car service, has announced that five machines, especially designed for use on trains, each dispensing different items of food and drink, have been installed in a passenger coach now in daily use in the railroad's New York-Washington service.

Pointing out that the new service will be in addition to regular dining car service, Mr. Bannard explained that the specially equipped car will be used experimentally for a 30-day trial period on a number of leading daytime trains. "The purpose of the experiment," he said, "is to find out whether our patrons are in favor of a choice of good things to eat and drink dispensed by automatic machines at any time during their trip."

A typical daily menu consists of fruit drink; roast beef, ham, and cheese sandwiches; doughnuts; Danish-type pastry; chocolate cake; ice cream; milk; chocolate drink; coffee, and assorted candy bars. The machines, which are serviced at station stops, are in a conveniently located car and signs at the end of each coach direct patrons to them.

Lehigh Valley Becomes 100 Per Cent Dieselized

Use of steam locomotive power on the Lehigh Valley ended on September 14, slightly ahead of the scheduled date, with the final run of a steam hauled freight train from Packerton, Pa., to Delano. "From now on," C. A. Major, president of the road, said, "all train service, freight, passenger and switching, will be performed by Lehigh Valley's increasing fleet of diesel-electric locomotives and rail diesel cars."

The Valley now has 226 diesel units, including 74 road freight units, 14 road passenger units, 10 road-switchers 126 yard switchers, and two rail diesel passenger cars. With the complete change-over to diesel operation there disappeared the last of a fleet of steam locomotives which at one time exceeded 1,000 on the railroad, which is the first eastern line of its size to become completely dieselized.

In addition to its locomotive dieselization, the L.V. is rapidly extending its use of the newer form of power to its tugboat service in New York harbor. Four diesel-powered tugs are already in operation, replacing six steam tugs, and delivery of another diesel tug is expected at the end of the year.

More Time for Pleadings On Fast Write-Off Ban

Railroads and other interested parties now have until October 22 to file presentations with respect to the Interstate Commerce Commission's new policy under which carrier reports to the commission would no longer reflect accelerated amortization of equipment and facilities acquired to handle defense-traffic loads. The previous deadline was September 27.

The extension, granted by the commission's Division 1, was announced in a notice which went on to say that the previous notice announcing the new policy, would, "in all other respects,"

News Briefs . . .

. . . Seatrain Lines now has five ships in its coastwise service. The fifth, "Seatrain Georgia," sailed from Edgewater, N. J., on September 6 for New Orleans and Texas City. Addition of the ship, built in the Chester, Pa., yards of the Sun Shipbuilding & Dry Dock Co., to the service has increased regular sailings from two each week to five each fortnight. A sister ship, "Seatrain Louisiana," is being completed by the same builder. When it is delivered, late in October, Seatrain Lines will further step up its coastwise services.

. . . The Santa Fe's "Super Chief" will assume a stellar role in a forthcoming motion picture, "Three for Bedroom C," a Brenco Pictures Corporation color film featuring Gloria Swanson. A complete set of "Super Chief" equipment—including a "pleasure dome" car with its private Turquoise dining room—has been dismantled and moved by technicians to the film company's Hollywood lot for construction of authentic sets. A Santa Fe spokesman said this was the largest dismantling job ever done on the road's equipment by any studio. Thousands of individual items, including parts and furnishings, were removed from Pullman, diner and dome cars, catalogued and reassembled on the movie set. After the filming is complete, these items will be returned and replaced by the studio's property men. The entire action of the story takes place aboard the train enroute from Chicago to Pasadena. Regular "Super Chief" service was not affected by the filming schedule, as the Santa Fe maintains a sixth standby set of equipment in addition to the five train units which operate the daily service.

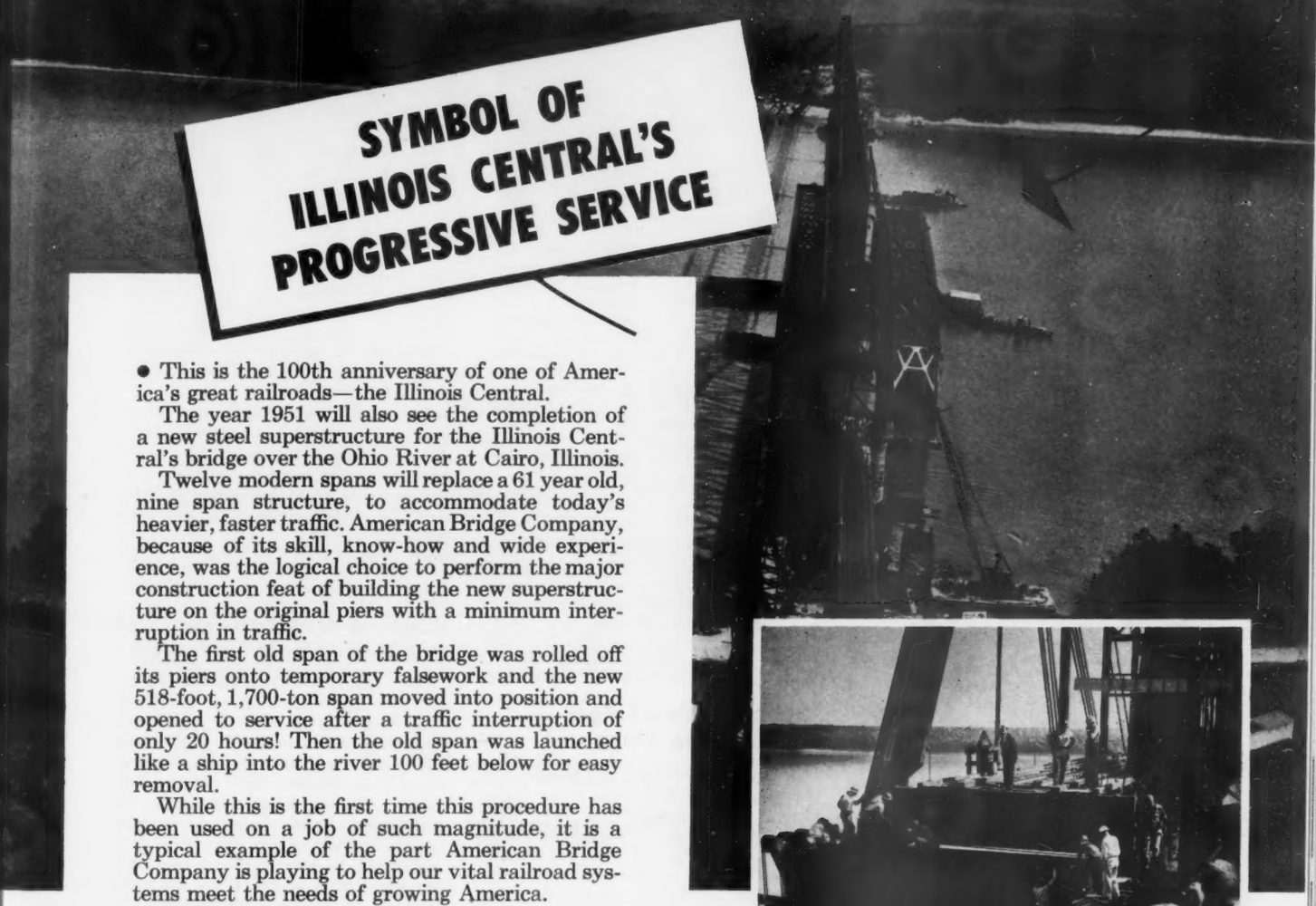
. . . A recent hurricane that struck three Mexican states in the Tampico area did severe damage to the National of Mexico. Rail service was interrupted on the San Luis Potosi-Cardenas-Tampico and Tampico-Monterrey lines, with especially heavy damage recorded in the Cardenas-Tampico area and from Tampico north to Ciudad Victoria. Service has now been restored to normal, following completion of reconstruction work.

. . . The New York Central on September 10 expanded dieselization of its St. Lawrence division by inaugurating "Beeliner" rail diesel car service between Syracuse and Massena, N. Y. The new, air-conditioned, diesel-driven car replaced trains No. 10 and 9, both pulled by steam locomotives, daily except Sunday. The "Beeliner" makes the 161-mile morning run from Massena as train No. 10 and returns as No. 9 in the afternoon.

. . . The Rock Island has mailed flood relief checks to some 160 of its employees whose belongings—including homes, clothing and personal effects—were damaged or destroyed in the recent Kansas-Missouri floods. Funds for relief were made available by the company to 115 home owners, 38 renters and 13 roomers, most of whom lived in the hard-hit Armourdale industrial district of Kansas City, Kan. The amount of each check was based on the number of dependents of the recipient employee.

BRIDGE MODERNIZATION AT CAIRO

SYMBOL OF ILLINOIS CENTRAL'S PROGRESSIVE SERVICE



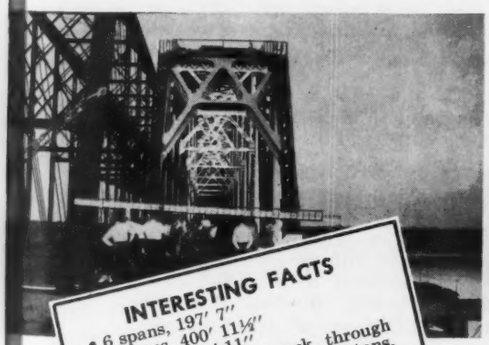
• This is the 100th anniversary of one of America's great railroads—the Illinois Central.

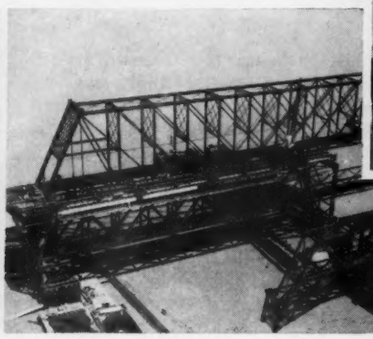
The year 1951 will also see the completion of a new steel superstructure for the Illinois Central's bridge over the Ohio River at Cairo, Illinois.

Twelve modern spans will replace a 61 year old, nine span structure, to accommodate today's heavier, faster traffic. American Bridge Company, because of its skill, know-how and wide experience, was the logical choice to perform the major construction feat of building the new superstructure on the original piers with a minimum interruption in traffic.

The first old span of the bridge was rolled off its piers onto temporary falsework and the new 518-foot, 1,700-ton span moved into position and opened to service after a traffic interruption of only 20 hours! Then the old span was launched like a ship into the river 100 feet below for easy removal.

While this is the first time this procedure has been used on a job of such magnitude, it is a typical example of the part American Bridge Company is playing to help our vital railroad systems meet the needs of growing America.





FOOT BY FOOT the old span, 60-ft. high and weighing 1,100 tons, is rolled over to rest on launching sleds atop temporary falsework. From this position it was launched into the Ohio 100 ft. below. **LEFT:** Falsework span No. 2 erected complete and jacked to elevation prior to floating. FAR LEFT: New span rolls into position four hours after movement started.

INTERESTING FACTS

- 6 spans, 197′ 7″
- 4 spans, 400′ 11½″
- 2 spans, 518′ 11″
- Bridge was single track, through truss. Steel used, 10,000 tons.
- Erecting procedure: Illinois Central R. R. and American Bridge Company.
- Consulting Engineers: Modjeski and Masters.

AVAILABLE NOW! *For showing in churches, schools, clubs and industries, the new sound and color motion picture—BUILDING FOR THE NATIONS—a candid, factual photographic record in full color of the highlights of the fabrication and erection of the United Nations' Secretariat Building in New York City.*

AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

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UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS TRADE MARK

AMERICAN BRIDGE

UNITED STATES STEEL

IT WAS A BIRTHDAY for both General Motors Diesel, Ltd., and the Quebec, North Shore & Labrador when the 1,500-hp. diesel-electric locomotive shown above left London, Ont., for service in the rich Ungava (Labrador) iron ore country. The general purpose unit, with the 3,000-hp. multiple freight unit for the Canadian National shown in the background, completed the first 12 months' output for General Motors Diesel—137 units totaling 177,100 horsepower. Shown on the platform of the Q.N.S. locomotive are, left to right: E. V. Rippingille, Jr., president of G.M.D.; Kenneth O. Humphreys, general manager of Clyde Industries, Ltd., Sydney, Australia, which is now making General Motors type locomotives for that country; and H. B. McClean, export manager of G.M.'s Electro-Motive Division at LaGrange, Ill.

remain " in full force and effect," pending consideration of the representations received.

The new policy would have the effect of requiring normal depreciation accounting with respect to the facilities involved—unless it were shown "definitely" that they would have "no use in transportation service after the emergency." (*Railway Age* of September 3, page 38.)

Meanwhile, the commission has proceeded to issue notices applying the policy to carriers other than railroads. Such notices contemplate issuance of orders to cancel accounts relating to accelerated amortization in accounting classifications applicable to persons furnishing cars or protective service against heat or cold, and to carriers operating on inland and coastal waterways. A like proposal to modify the railroad accounting classification was issued along with the commission's original notice with respect to the matter.

Truckers Seek to Adjust Rates on Railroad Basis

The Southern Motor Carriers Rate Conference, on behalf of itself and the Middle Atlantic States Motor Carriers Conference, has applied to the Interstate Commerce Commission for permission to increase motor carrier rates by adding a 6 per cent surcharge similar to that authorized for the railroads in Ex Parte No. 175.

The two conferences represent motor carriers in Southern and middle Atlantic states. The proposed increase would keep the truck rates in line with the rail basis. The increase would be subject to "holddowns" and would expire February 28, 1953, unless sooner cancelled or modified. This is the same expiration date applicable to the increase authorized for the railroads in the Ex Parte No. 175 proceeding.

While motor carriers have generally adjusted their rates in line with railroad rates following the various postwar increases, this is the first such action since the Ex Parte No. 175 decision.

Truckers Would Pass N.Y. Tax to Shippers

A plan for passing along to shippers the cost of New York state's new highway-use tax on truckers has been filed with the Interstate Commerce Commission. The Middle Atlantic States Motor Carrier Conference, representing motor carriers in New York, has filed a tariff which would impose new "surcharges" on traffic moving "from, to, between or through points in the state of New York."

The tariff, scheduled to become effective October 8, would apply surcharges ranging from 1.5 cents per 100 pounds to 5.75 cents per 100, depending on the zones involved. A minimum surcharge of 5 cents per shipment would apply.

The new tax on motor carriers in New York becomes effective October 1. It is understood the new surcharges are designed to reimburse the carriers for the cost of the tax.

Auto Rentals Growing; Rail Traffic a Factor

National volume of automobile and truck rentals increased by more than 19 per cent during the past 18 months, it was announced in Chicago on September 18 by A. J. Shaughnessy, vice-president of Hertz Driv-Ur-Self System, Inc. Speaking at Hertz's three-day international sales and management conference, Mr. Shaughnessy said a substantial amount of this growth can be directly attributed to increasing use of rental services by travelers between cities. "There is a definite t..nd," he explained, "toward traveling from one city to another by train or plane and renting a car on arrival, instead of driving the entire distance. This practice now accounts for more than one-third of our total business, compared with less than one per cent 20 years ago. Widespread acceptance of this modern travel method is also increasing passenger traffic for both railroads and ai. lines."

A number of railroad and air line officers participated in the meeting, which included more than 300 Hertz operators from all parts of the United States and company representatives from Hawaii, Canada, Great Britain and Mexico.

Hertz, the largest auto-rental enterprise in the world, recently celebrated its 27th anniversary with the award of a month's free service to its 75 millionth customer. A reproduction of a Hertz rail-auto advertisement specially prepared for the Saturday Evening Post appeared in the September 17 *Railway Age*, page 72.

Atlantic Coastwise Colliers Get Higher Rate Ceilings

New dollars and cents maximum rates for the transportation of coal in colliers from Hampton Roads, Va., to North Atlantic ports, including New England, have been established by the Office of Price Stabilization. They were established, effective September 20, under Supplemental Regulation 62 to the General Ceiling Price Regulation.

The O.P.S. announcement said that the adjustment would raise the rates involved to levels approximately 32 cents per ton higher than the rates in effect when ceilings were originally established. The new ceilings are based on the rates for shipments from Hampton Roads to Boston, Mass., which will range from $1.57 to $2.36 per gross ton —depending on the vessel load.

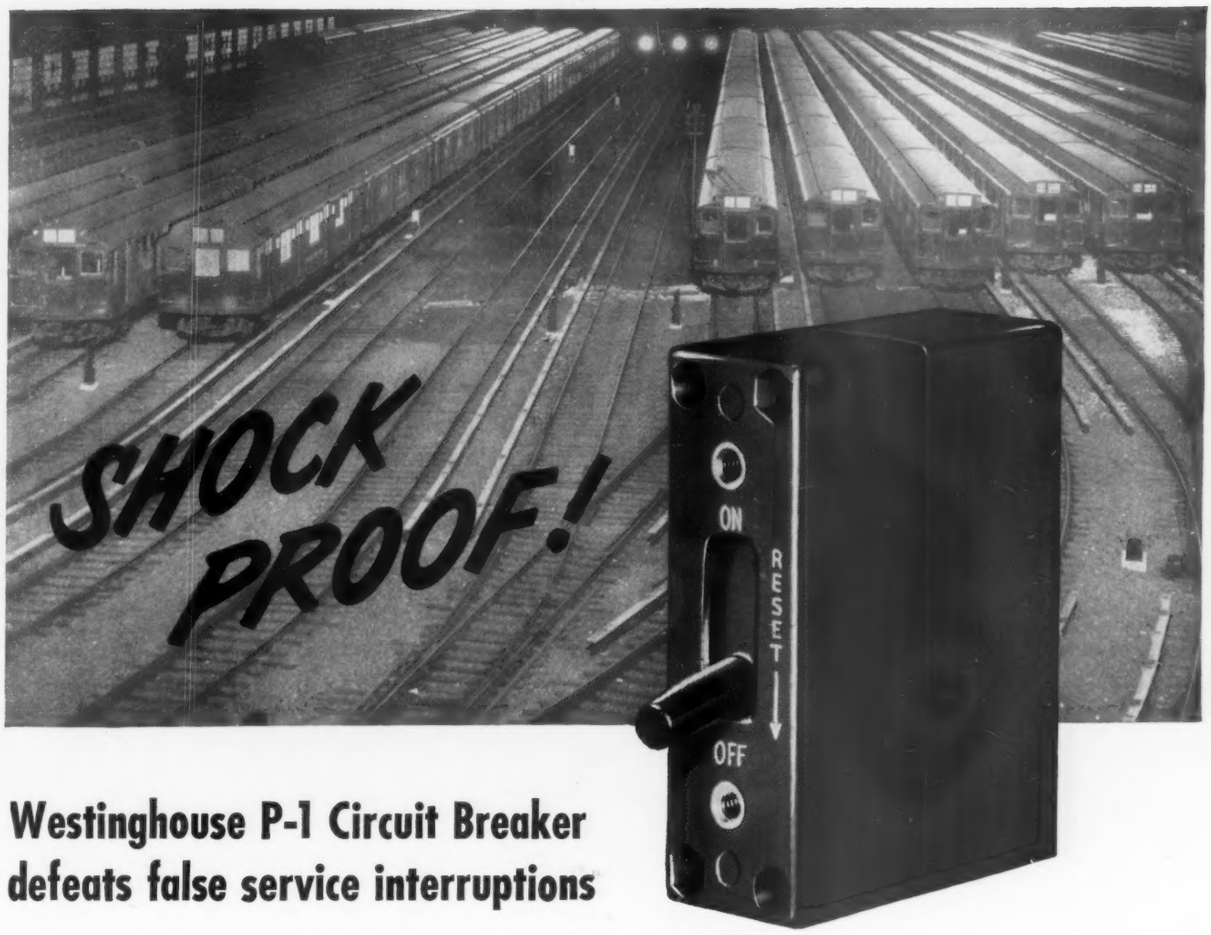
Beatrice Aitchison Joins Department of Commerce

Dr. Beatrice Aitchison, transportation economist with the Interstate Commerce Commission, has accepted a position as acting director, Transport Economics Division, Office of Transportation, Department of Commerce.

Dr. Aitchison, daughter of I.C. Commissioner Clyde B. Aitchison, has been with the commission's Bureau of Transport Economics and Statistics, except for brief intervals, since 1938. During World War II she was on loan from the I.C.C. to the Office of Defense Trans-

(*Continued on page* 67)

Save with SAFER... SURER AB BREAKERS



Westinghouse P-1 Circuit Breaker defeats false service interruptions

Rough roadbeds are hard taskmasters for ordinary circuit breakers. Excessive vibration and shock can cause false switch tripping... interrupt electrical service needlessly. Westinghouse P-1 Circuit Breakers can take it—they are designed specifically for rough service.

The P-1 breaker is an adaptation of the Navy breaker used on PT boats. Here, P-1 type breakers proved their ability to withstand the roughest kind of operating conditions.

Rugged construction makes the difference. The case is made from heavy-duty Moldarta. Trip release mechanism operates *only* on sustained overloads—physical jarring cannot bother it.

Though sturdily built, the P-1 is small, compact. It combines both switch and protective device in a single unit. A bank of P-1's can be mounted in a panel requiring less space than separate fuse and switch units.

Booklet B-4081 describes all features of the P-1. Ask your Westinghouse representative for your copy, or write to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-30067

DESIGN TESTED AND VERIFIED IN THE Westinghouse HIGH POWER LABORATORY

YOU CAN BE SURE.. IF IT'S Westinghouse

AB CIRCUIT BREAKERS

THE COMPLETE LINE

For additional information, use postcard on pages 75, 76

one manufacturer

one responsibility

At Electro-Motive, all phases of locomotive construction—the design and manufacture of all major components as well as their assembly—are centered in one organization.

This concentration of responsibility for all phases of locomotive performance results in a balance of design—uniformity of high-quality manufacture—and parts and service protection that is unrivaled in the motive power field.

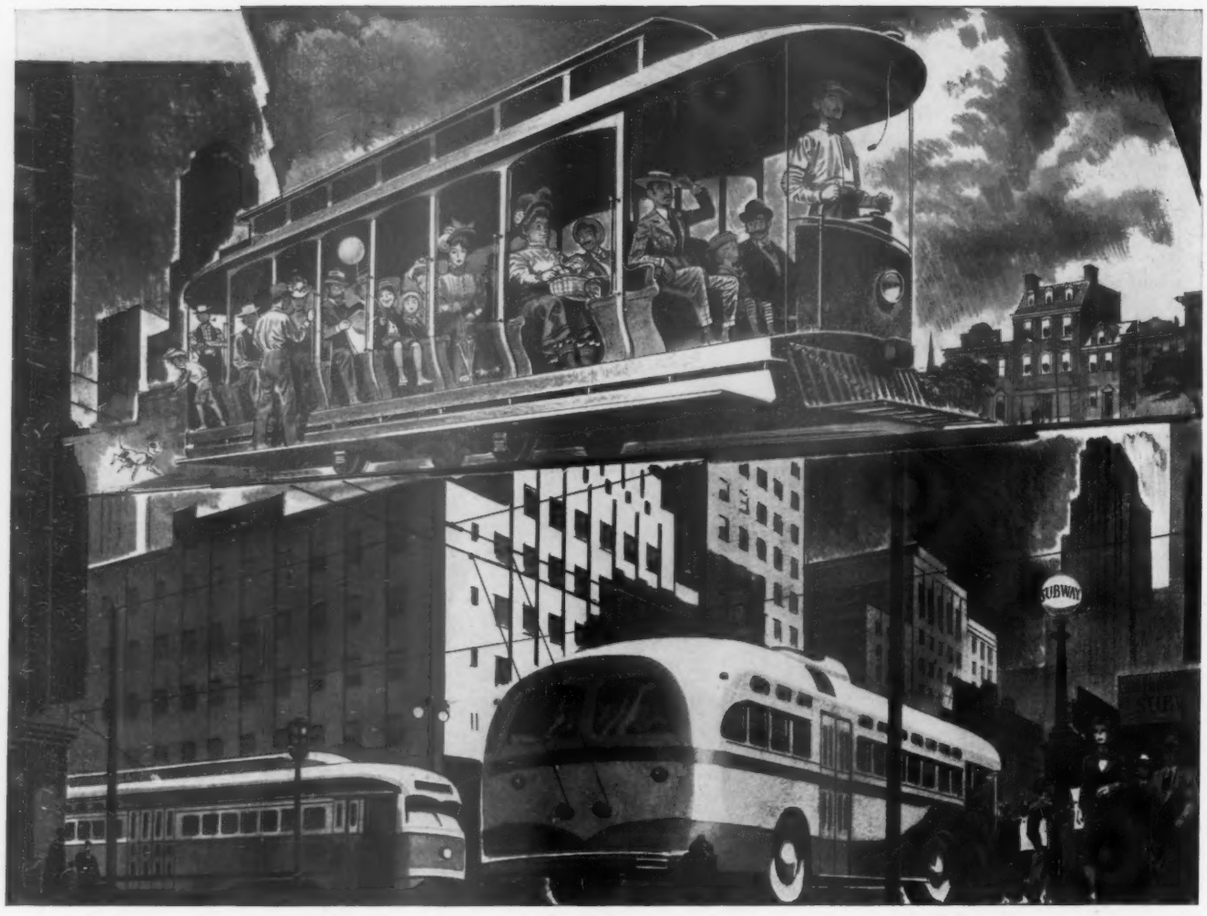
All this—plus maximum interchangeability of low-cost parts between models—leaves no question that General Motors Diesel locomotives are the most productive tools available to railroads to reduce operating costs and keep pace with the growing traffic demands of industry and defense.

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS LA GRANGE, ILL.

Home of the Diesel Locomotive

In Canada: GENERAL MOTORS DIESEL LTD., London, Ont.



Transit Progress Paces Civic Progress

September 24 deserves a red circle on everyone's calendar . . . for it is National Transit Day, and commemorates the 100th anniversary of the birth of America's Transit system.

Millard Fillmore was president when the first horse-car was put into service in New York City. Twenty-two years later the cable car began climbing the hills of San Francisco. In 1886 the first electric trolley awed the citizens of Montgomery, Alabama, and New Yorkers got their first subway ride in 1897. These were the humble beginnings of the system that today carries over 20 billion of the nation's men, women, and children annually.

On modern street cars, trackless trolleys and subways, Westinghouse brakes play a vital part, for how fast the conveyances can safely *go* is dictated by how fast they can *stop*. Each type of transport calls for something different in equipment, so that the name "Westinghouse Air Brake" means far more than a single product. It stands for a comprehensive range of power braking systems: pneumatic, electro-pneumatic, all-electric, and combinations with dynamic. Each is designed to do a better job in some specific application . . . each is the product of the Westinghouse research program that is now in its 82nd year, and that has the one aim of continuously increasing the comfort and safety of America's traveling public.

Westinghouse Air Brake Co.

AIR BRAKE DIVISION

WILMERDING, PA.

To Direct popular attention to the remarkable achievements of American Railroads, this advertisement has been run in national media by Westinghouse Air Brake Co., Air Brake Division.

(*Continued from page* 62)
portation. Recently, she has served part-time as consultant to the Military Traffic Service, Department of Defense, and will continue that role in her new position.

The Transport Economics Division, which she now heads, is one of three divisions in the Office of Transportation. Others are the Carrier Division, headed by Dr. Herbert Ashton, and the Mobilization Division, under Paul F. Royster. The Office of Transportation in turn is headed by Philip A. Hollar, deputy under secretary of commerce for transportation.

T. E. Bickers, Secretary Of Mediation Board, Dies

Thomas E. Bickers, secretary of the National Mediation Board since July 1, 1949, died unexpectedly on September 19. His career in labor relations work extended over a period of more than 30 years.

Speaking on behalf of the board, Chairman Leverett Edwards made this statement: "Tom Bickers will be greatly missed by the National Mediation Board. We feel that his influence and high principles have contributed very greatly to the success of the Railway Labor Act."

Thomas E. Bickers

Mr. Bickers was born in Richmond, Va., and was in railroad service prior to 1918 with the Chesapeake & Ohio, in various capacities, including labor-relations work. From 1918 until 1920, he served with the Board of Wages and Working Conditions of the United States Railroad Administration; and upon termination of federal control of the railroads, he became an examiner on the staff of the former United States Railroad Labor Board, which was created by the Transportation Act of 1920.

When that board was supplanted in 1926 by the former U. S. Board of Mediation, Mr. Bickers joined the new agency's staff as a mediator.

From 1930 until 1938, he was again in railroad service as a personnel officer for the former Pere Marquette and the New York, Chicago & St. Louis. Mr. Bickers then returned to government service as a mediator on the staff of N.M.B., which had succeeded to the duties of the former U. S. Board of Mediation in 1934. He continued as an N.M.B. mediator until his appointment as secretary.

Among other assignments, he served on the committee which promulgated the Standard Occupational Classification of Railroad Employees and Reporting Forms.

Senate Group Takes Wage Case Back to White House

A group of senators, headed by Senator Murray, Democrat of Montana, was scheduled to see President Truman on September 20 for a discussion of the stalemated wage and rules dispute between the railroads and those of their employees who are represented by the Order of Railway Conductors, Brotherhood of Locomotive Engineers, and Brotherhood of Locomotive Firemen & Enginemen. Senator Murray is chairman of the Senate Committee on Labor and Public Welfare which investigated the dispute in a series of public hearings held last spring.

Since that time the stalemate has continued, and the Army has continued to operate the railroads which were seized by President Truman more than a year ago, in the face of a strike threat posed by the O.R.C. and Brotherhood of Railroad Trainmen. The B.R.T. case has been settled.

Senators who were expected to accompany Senator Murray to the White House included Senators Humphrey of Minnesota, Lehman of New York, Hill of Alabama and Kilgore and Neely of West Virginia, Democrats, and Morse of Oregon and Langer of North Dakota, Republicans.

Norwich U. to Honor Grenville M. Dodge

This year marks the 100th anniversary of the graduation of Grenville M. Dodge, builder of the Union Pacific, and one of the most famous of railroad civil engineers, from Norwich University, said to be the first educational institution in the United States to teach civil engineering, i.e., engineering to civilians.

The university, which is in Northfield, Vt., will celebrate General Dodge's life and achievements on October 6. A central feature of the celebration will be a "Railroad Pageant," principal "actors" in which will be two old locomotives. The locomotives —old No. 40 of the Central Vermont and the Baltimore & Ohio's "Lafayette"—will be used to depict the driving of the golden spike signifying completion of the first transcontinental railroad on May 10, 1869.

Other events on the program are a Newcomen Society luncheon honoring the university; an address by a prominent public figure; a dinner session at which Robert S. Henry, vice-president of the Association of American Railroads, will be the main speaker; and a showing of railroad films. Exhibits of models of railroad trains, bridges and other railroad structures and equipment will be arranged by the B. & O. (Also see page 55.)

"Of course, all employees can help to cut down expenses—by reducing loss and damage to freight; by working safely and carefully to avoid claims for personal injuries; by trying harder, day by day, to work more efficiently; by exerting greater effort to win new freight and passenger business and to please and keep present customers—in short, by assuming a sense of individual responsibility for the welfare of the company."—From the article "If YOU Owned a Railroad," by Clifford A. Somerville, *Railway Age*, July 23, page 43

Erie Observes Centennial Of Telegraphic Dispatching

At Harriman, N. Y., on September 21, the Erie, in cooperation with the Western Union Telegraph Company and the Morse Club, observed the one hundredth anniversary of telegraphic train dispatching — the first recorded use of which was by Charles Minot, early superintendent on the Erie's predecessor, the New York & Erie, to move a train from Turners (now Harriman) to Port Jervis.

The centennial ceremonies, which took place in the present Erie station at Harriman, were highlighted by receipt of congratulatory messages from presidents of more than 75 railroads located in all parts of the country. A number of railroad presidents who were at one time telegraphers sent their messages personally, by Morse code; the other messages were received by Telefax, Western Union's

newest method of transmitting facsimile communications.

Speakers for the occasion included Paul W. Johnston, president of the Erie; W. P. Marshall, president of Western Union; and Wayne Coy, chairman of the Federal Communications Commission. George E. Palmer, president of the New York chapter of the Morse Club — an association of former telegraphers — and also president of the Serial Federal Savings & Loan Association of New York, acted as master of ceremonies.

One of the invited guests was Allen Starr, of Ramsey, N. J., a former Erie telegrapher, now 101 years of age, whose birth antedated by one year Mr. Minot's first use of telegraphic dispatching. Among the railroad "presidents" scheduled to send messages was Walt Disney, of Hollywood, Cal., "president" of the Carolwood Pacific — a large-scale model railroad operated by Mr. Disney in his back yard.

Railroad, Western Union and Morse Club representatives who attended the ceremony, and members of the press, were taken to Harriman on a special train operated by the Erie from Jersey City, N. J.

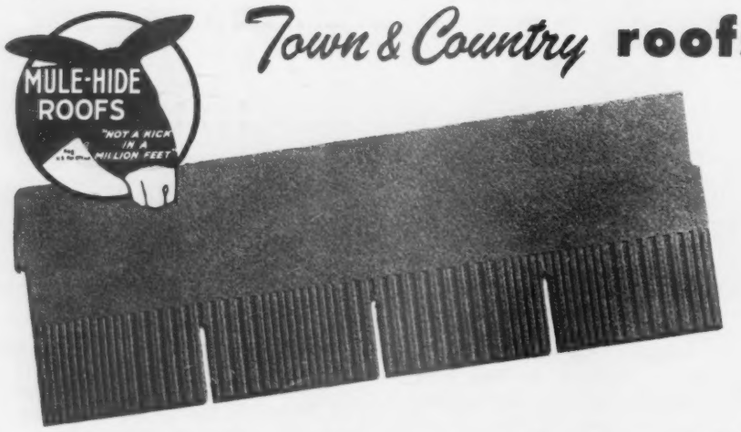
New Method of Serving Meals Tried on C. & O.

A new method of ordering and serving dining car meals was inaugurated by the Chesapeake & Ohio on September 10 on some of its Washington to Charlottesville trains.

Under the new method, dining car patrons are given menus on which five complete meals are listed, and simply check the meal desired. The meals themselves are served complete on a single tray. A sample menu includes hot consomme, braised beef with peas and corn, tossed salad, rolls, tea or coffee and an ice cream sundae.

The C. & O. plans to experiment with the prepared tray meals on various parts of its system.

Many Railroads today specify MULE-HIDE Town & Country roofs



—because it's the only shingle with ALL these weatherproof features:

3⅞" WEATHER EXPOSURE
TRIPLE THICKNESS
4¼" HEADLAP
290 LB. WEIGHT
4-UNIT DESIGN
SECURITY NAILING
PLUS —

11 beautiful colors!

COR-DU-ROY ribs & grooves that SLOW DOWN ROOF WEAR!

Write — For samples and full specifications
THE LEHON COMPANY — Chicago 9

ORGANIZATIONS

The **National Association of Railroad Women** will hold its eighth annual meeting on October 8, 9 and 10 at the La Fonda Hotel, Santa Fe, N. M.

The fall term of the **New York Institute of Finance** will include a lecture group on Current Developments in Selected Railroads. The group, which will meet from 5:15 to 6:45 p.m. on Mondays for 10 weeks, beginning October 1, will be led by Pierre R. Bretey, railroad analyst for Baker, Weeks & Harden, and president of the National Federation of Financial Analysts Societies; Herbert F. Wyeth, railroad analyst for Shields & Co.; and W. Wendell Reuss, partner in McLaughlin, Reuss & Co.

R. J. Morfa, chairman of the board of the Missouri-Kansas-Texas, was the principal speaker at the annual installation program of the **Women's Traffic & Transportation Club of New Orleans** on September 13. Speaking to members and their guests at a dinner meeting in the Monteleone Hotel, Mr. Morfa discussed "The Measure of Women Workers' Progress," and outlined the role women have assumed in today's business world.

The **Chicago Transportation Club** will hold its annual fall dinner on October 4 in the Palmer House, at 6:30 p.m., followed by a floor show. On October 9, the club will sponsor a tour to Lafayette, Ind., where the National Homes Corporation plant and Purdue University will be visited. A special Monon train will leave Chicago at 8:45 a.m. C.S.T. and will return at 6 p.m.

The **New York Division** of **Railroad Enthusiasts** has announced a "Pennsylvania Railroad Night," to be

EXPEDITE THE BIG JOBS WITH G-E PROJECT CO-ORDINATION

When the Nickel Plate's Hulett ore unloaders were built at Huron, Ohio, by the Wellman Engineering Co., installation of electric equipment was facilitated with General Electric Project Co-ordination. This meant that the G-E 2000-kw package substation, motors, Ward-Leonard type control, and electric pushers were shipped to arrive when needed by the erector. Other benefits: ordering was simplified, engineering time was saved, electric apparatus was properly selected for the job to be done. Ask your General Electric representative to show you how G-E project co-ordination can pay off on your big jobs. *General Electric Company, Schenectady 5, N. Y.*

Shop Motors and Control • Shop Testing Equipment • Undercar Power Plants • Lighting Systems • Electric Switchheaters • Signal Power Systems • Power Distribution Systems • Electric and Diesel-Electric Locomotives

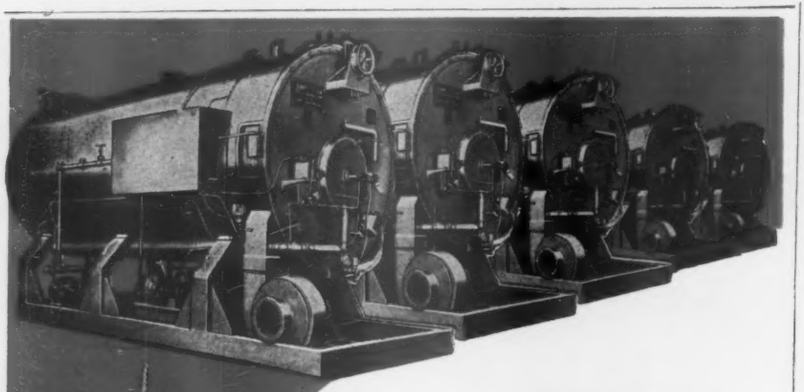
GENERAL ELECTRIC

152-23

held on September 26, in Room 5928, Grand Central Terminal, at 8 p.m. William T. Phillips, assistant general passenger agent of that road, will speak on "Passenger Business on the Pennsylvania," after which the General Electric Company's new moving picture, "Shining Rails," will be shown.

Interstate Commerce Commissioner Clyde B. Aitchison will be among speakers at the sixty-third annual convention of the **National Association of Railroad and Utilities Commissioners,** which will be held October 16-19 at the Francis Marion Hotel in Charleston, S. C. Others scheduled to address the meeting include Chairman John C. Doerfer of the Public Service Commission of Wisconsin and Chairman John H. Hessey of the Public Service Commission of Maryland. Presiding at the convention will be the association's president — George H. Flagg, chairman of the Public Utilities Commission of Oregon.

The next meeting of the **Traffic Club of Brooklyn,** to be held on October 4, at the Hotel Granada, Brooklyn, N. Y., will be designated as "Freight Forwarders Night." The speaker has not yet been announced.



THESE ROADS and OTHERS ARE *Saving* With "The Railroad Boiler"

A steadily increasing number of roads, both large and small, are using the *completely automatic* AMESTEAM GENERATOR. This modern compact steam producer requires no boiler room labor and provides very high oil burning eúciency, evaporating 15¾ pounds of water on 1 pound of fuel, using No. 6 oil, providing 85% thermal efficiency.

Single units from 10 to 500 h.p. Higher horsepower available. Suitable for multiple installations. Delivered complete ready for service connections. *Phone, write or wire.*

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RAILROAD SUPPLY *and* EQUIPMENT, *Inc.*
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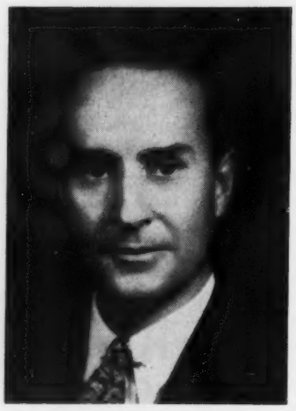
Phone Scranton 7-3391

AMESTEAM GENERATOR
"The Railroad Boiler"
PRODUCT OF AMES IRON WORKS
OSWEGO, N. Y.

SUPPLY TRADE

Eads Johnson, Jr., has been appointed executive vice-president of the **Southern Wheel Division of the American Brake Shoe Company.** He was formerly assistant vice-president. Mr. Johnson joined Brake Shoe in 1934 after his graduation from Yale



Eads Johnson, Jr.

University and began sales work for the Brake Shoe & Casting Division in 1935. Fourteen years later he transferred to the sales department of the Southern Wheel Division, and in 1950 became assistant vice-president of that division.

Wilbur E. Lunger has been elected a vice-president of the **American Car & Foundry Co.,** reporting to **R. W. Ward,** vice-president in charge of production. Mr. Lunger, a native of Danville, Pa., was formerly assistant vice-president in the production department. Educated in New York, he studied engineering and for two

Wilbur E. Lunger

years was trained in shop work at A.C.F.'s Berwick, Pa., plant. In 1916 he was appointed field inspector in the export division and in 1923 he became mechanical engineer at Huntington. He was made general superintendent

Pressure-treated lumber gets *THE HIGHBALL* from more and more railroads

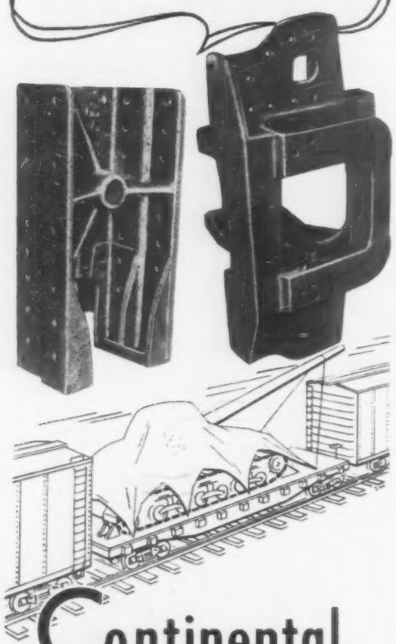
ALL OVER THE COUNTRY, large and small railroads are turning to pressure treatment of lumber for freight cars. They have found they could not afford to waste high-cost labor in replacing wood that could serve much longer.

Look at *any* untreated wood you are using as a possible location of savings. We will be glad to work with you in determining the comparative economy of pressure-treated vs. untreated wood.

R. H. Bescher, Technical Dept.
KOPPERS COMPANY, INC.
Orrville, Ohio

KOPPERS PRESSURE-TREATED WOOD

SERVING
America's Second Line of Defense
...the Railroad Industry



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RAILROAD CASTINGS

Major railroads serving America's defense needs look to Continental for accurate, dependable castings with all degrees of temper and finish. Continental's extensive facilities and foundry know-how enable "custom" care and precision regardless of quantity. Special heat treatment of alloy steel castings gives highest alloy physical properties without the extra cost of additives . . . Continental's hot die pressing of bolster center fillers saves weight and eliminates machining.

Continental
FOUNDRY & MACHINE CO.
CHICAGO • PITTSBURGH
Plants at
East Chicago, Ind., Wheeling, W. Va., Pittsburgh, Pa.

there in 1937 and district manager in 1946. In November 1949 Mr. Lunger was transferred to New York as assistant vice-president.

Guilford S. Turner, Inc., has been appointed national sales representative for the **Irving Subway Grating Company's** Safkar grating products.

The **North American Coal Corporation** has announced acquisition of the **Rail & River Coal Co.** from the Canadian National. Acquisition of the property will increase North American's coal production to more than 6,000,000 tons annually. The purchase price was not revealed.

OBITUARY

Fred E. Finley, district manager of the St. Louis office of the Sheffield Steel Corporation, died on August 25.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

T.C. Procuring Rolling Stock for All Services

The Army Transportation Corps is now procuring standardized railroad box cars for all four of the armed services. Replacing the former practice whereby each service procured railroad equipment of its own design, the single procurement method, which extends to all railroad cars and locomotives, is said to have aided standardization of government-used railroad equipment.

A total of 212 50-ton box cars were recently procured by the Marietta Transportation Corps Depot, Marietta, Pa., from the Michigan City, Ind., plant of the Pullman-Standard Car Manufacturing Company. Of the cars —all "PS-1" units—150 were delivered to the Army, 39 to the Navy, 13 to the Air Force and 10 to the Marine Corps. The cars will be used principally to replace wornout equipment in intra-plant service within domestic military installations.

The **Norfolk & Western** has ordered 1,000 70-ton gondola cars from the Virginia Bridge Company. Inquiry for this equipment was reported in *Railway Age* of August 27, page 58.

LOCOMOTIVES

Backlog of Locomotives On Order Totals 1,557

On September 1 Class I railroads had 1,557 locomotives on order, of which 1,545 were diesel-electric, 10 steam and two electric, the Association of American Railroads announced last week. On the same date last year Class I roads had 1,388 locomotives on order.

New locomotives installed in the first eight months of 1951 totaled 1,647, including 1,633 diesel-electric, 12 steam and two electric. In the same period of 1950 installations totaled 1,478, of which 1,468 were diesel-electric, seven steam and three electric. In August this year, Class I roads installed only 164 new locomotives, all of which were diesel-electric except for two steam locomotives.

The **Minneapolis, St. Paul & Sault Ste. Marie** board of directors has authorized purchase of 20 diesel-electric locomotives costing about $3,200,000.

The **Missouri-Kansas-Texas** orders for 20 1,200-hp. diesel switchers — authorization for which was reported in the September 17 *Railway Age*, page 98 — have been divided equally between the Electro-Motive Division of General Motors Corporation and the Baldwin-Lima-Hamilton Corporation.

The **Montour** has ordered four 1,200-hp. diesel-electric locomotive units from the Electro-Motive Division of General Motors Corporation at an approximate cost of $425,000. Delivery of the units, the first non-steam locomotives for the road, is scheduled for 1952.

The **St. Louis Southwestern** has ordered four 1,600-hp. diesel-electric road-switching locomotives from the American Locomotive-General Electric Companies, at an estimated cost per unit of $145,711, for December 1951 delivery.

The **Union** has placed an order for eleven 1,200-hp. diesel-electric switchers with the Electro-Motive Division of General Motors Corporation for early delivery early in 1952, at an estimated cost of $107,000 each.

SIGNALING

The **Atlantic Coast Line** has ordered from the Union Switch & Signal Division of Westinghouse Air Brake Company material to install new automatic signaling on 91 miles of double track between Florence, S. C., and Charleston, to replace style S semaphore signaling. The order includes styles H-2 high searchlight and N-2 dwarf color light signals, T-21 switch stands, SL-26 electric switch locks, switch circuit controllers, relays, rectifiers, transformers and housings. Field installation will be handled by railroad forces.

The **New York Central** has ordered from the General Railway Signal Company equipment to install remotely controlled relay interlockings

at Thornhill, Ohio, and Brookfield Junction. The control machine, to be located at Doughton, will have 19 track lights and 37 levers for control of nine switch machines, two switch locks, and 21 signals. Included in this order are types B and K relays, type F dwarf signals and model 5D switch machines.

The **Reading** has ordered equipment from the General Railway Signal Company for installation of automatic switching at an eastbound yard at Rutherford, Pa. The yard will have 33 classification tracks; 10 type E retarders totaling 990 rail feet; an automatic switching control panel with 33 track-selection push buttons; and a diagrammatic type retarder panel with controls for five retarder locations. Included in this order are type B relays, type D color-light signals and model 6 electric switch machines.

FINANCIAL

Boston Terminal Company.—*Reorganization.*—The reorganization plan for this terminal company, as approved by the I.C.C. and the U.S. District Court in Massachusetts, is being submitted for acceptance or rejection to the holders of B.T. first-mortgage 3½ per cent bonds due February 1, 1947, and 4 per cent bonds due July 1, 1950. Holders of these securities as of September 19 are entitled to vote on the plan. Ballots must be executed and returned to the I.C.C. in Washington, D. C., on or before October 29, 1951. (*Railway Age*, June 24, 1950, page 112.) Under the reorganization plan these bondholders would receive about $776 in cash and five shares of New York, New Haven & Hartford common stock for each $1,000 bond.

Illinois Central.—*Air Rights Sale.*—Approval has been obtained from the Illinois Commerce Commission to sell a series of land parcels for the "air rights" site of the proposed $30 million office building of the Prudential Insurance Company of America (*Railway Age*, July 30, page 54, and March 12, page 92). The reported price for the land is $2,270,315. The insurance firm is to be given an easement from the building site northward to the Chicago river. This area will be utilized for air conditioning and other purposes. It is expected that the 35-story building will be erected within five years.

Southern.—*Acquisition.*—Two of this road's affiliates — the High Point, Randleman, Asheboro & Southern and the Carolina & Northwestern — have withdrawn their application for authority to acquire three miles of line in and near Asheboro, N. C., from the Norfolk Southern. (*Railway Age*, September 3, page 90.) The I.C.C. dismissed the application after receiving a letter requesting such action be taken.

Wyoming Railway.—*Reorganization.*—Division 4 of the I.C.C. has fixed the sum of $6,000 as the maximum payable to R. E. McNally, trustee of this road, and $4,000 as the maximum for Burton S. Hill, counsel for the trustee, in connection with this road's reorganization proceedings.

New Securities

Division 4 of the I.C.C. has **authorized:**

SOUTHERN PACIFIC.—To assume liability for $10,920,000 of series GG equipment trust certificates to finance in part 49 diesel-electric locomotive units and 1,176 freight cars. Estimated total cost of the equipment is $14,570,984. (*Railway Age*, August 27, page 61.) Division 4 approved sale of the certificates, with interest at 2¾ per cent, for 99.0999—the bid of Halsey, Stuart & Co. and 18 associates—whi h will make the average annual cost of the proceeds approximately 2.91 per cent. The certificates, to be dated September 1, will mature in 15 annual installments of $728,000 each, beginning September 1, 1952. The certificates were reoffered to the public at prices yielding from 2.25 to 2.9 per cent, according to maturity.

Application has been filed with the I.C.C. by:

CHICAGO, ROCK ISLAND & PACIFIC.—To assume liability for $5,250,000 of series K equipment trust certificates to finance in part 15 diesel-electric locomotives and 900 boxcars costing an estimated $7,030,110.

	Equipment and builder	Estimated Unit Cost
15	1,500 general purpose locomotives (Electro-Motive Division, General Motors Corporation)	$147,230
900	50-ton box cars (Pullman-Standard Car Manufacturing Company)	5,357

The certificates, to be dated November 1, would mature in 30 semiannual installments of $175,000 each, beginning May 1, 1952. They wou'd be so'd on the basis of competitive bids, with the intereset rate to be set by such bids.

Security Price Averages

	Sept. 18	Prev. week	Last year
Average price of 20 representative railway stocks	55.20	54.46	48.52
Average price of 20 representative railway bonds	93.99	93.62	95.72

Dividends Declared

AKRON, CANTON & YOUNGSTOWN.—$3, payable October 1 to holders of record September 15.

CHICAGO GREAT WESTERN.—5% preferred, accumulation, 62½¢, payable September 28 to holders of record September 24.

EUROPEAN & NORTH AMERICAN.—$2.50, semiannual, payable October 3 to holders of record September 14.

MAHONING COAL.—$10, reduced, payable October 1 to holders of record September 24.

NORWICH & WORCESTER.—8% preferred, $2, quarterly, payable October 1 to holders of record September 15.

PROVIDENCE & WORCESTER.—$2.50, payable October 1 to holders of record September 17.

TEXAS & PACIFIC.—$1.25, payable September 28 to holders of record September 24.

Investment Publications

[The surveys listed herein are, for the most part, prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Fahnestock & Co., 65 Broadway, New York 6.

Gulf, Mobile & Ohio Railroad Co. Weekly Review, September 4.

(*Continued on page 77*)

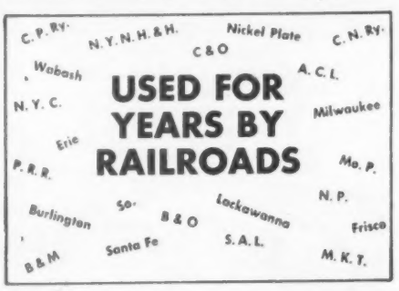
Railway INSULMAT

The remarkably effective 3-PURPOSE COATING that saves Railroads Thousands of Dollars every year

- Deadens Sound
- Kills Vibration Noises
- Protects Metal against Rust and Corrosion
- Prevents Condensation Drip and Resulting Damage to Freight
- Prevents Saturation of all types of Insulation Products
- Used as a Ceiling Finish instead of Plywood—it costs less and is better

Applied with spray gun to ceilings and side walls of freight, passenger and refrigerator cars and cabooses.

Railway Insulmat being applied to the inverted ceiling of a California Zephyr car.



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Technical Coatings since 1895
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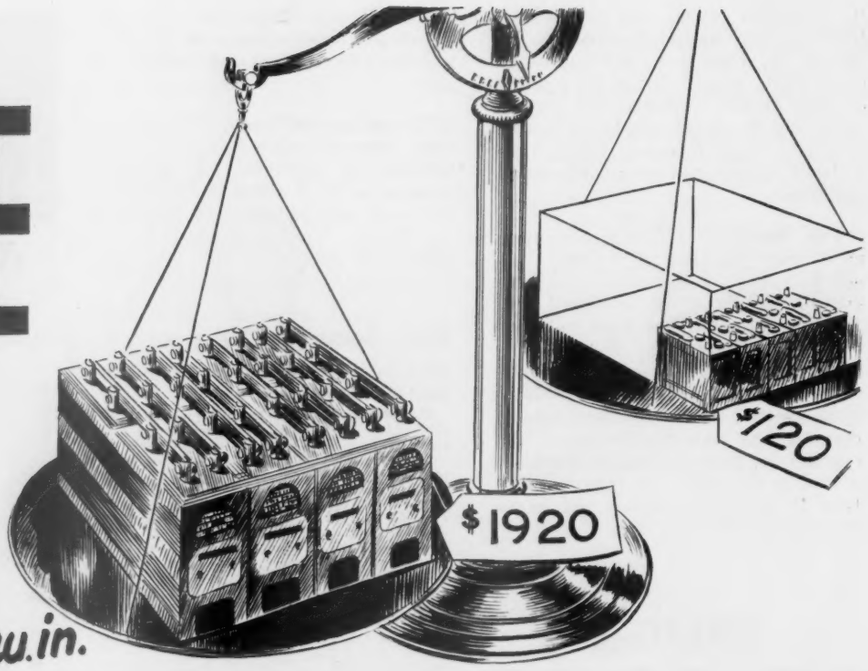
$1800.00

3220 lb.

43,830 cu. in.



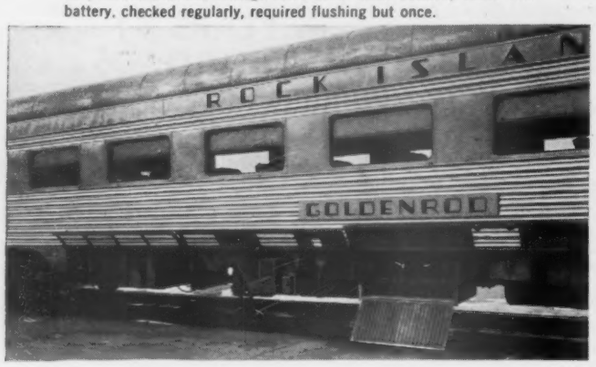
on every passenger car!

WAUKESHA
L·B Enginator* System

NOW... any railroad can ELIMINATE LARGE BATTERIES ordinarily used in modern passenger cars—with the WAUKESHA L B Enginator* System.

SAVE the high capital investment in large batteries...
SAVE high maintenance and replacement costs...
SAVE hauling literally tons of unnecessary weight...
SAVE an amazing amount of precious under-car space ...with the WAUKESHA L B Enginator* System, fully described in Bulletin 1597.

This Waukesha L B Enginator* System has been 100% available in daily service between Chicago and Denver since October, 1950. The battery, checked regularly, required flushing but once.



Compare these Battery Facts and Figures for a 32-volt system

Standard Car Lighting Battery—1000 amp-hr—typical installation in a conventional car

Cost, about	Weight, about	Space, about
$1920	3530 lb.	48,000 cu. in.

Waukesha L B System (7½ KW or 25 KW Enginator*) —uses five 6-v automotive starting batteries

Cost, about	Weight, about	Space, about
$120	310 lb.	4170 cu. in.

SAVING — with the Waukesha L B System —

Cost, about	Weight, about	Space, about
$1800	**3220 lb.**	**43,830 cu. in.**

Note: Standard Car Lighting Battery weighs about 3530 lb.; axle generator, about 1500 lb.—a total of 5030 lb. Compare with Waukesha L B System weights (including automotive starting batteries weight of 310 lb.)—25 KW Enginator* totals about 3610 lb.; 7½ KW Enginator* totals about 1500 lb.

*Reg. U. S. Pat. Off.

RAILWAY DIVISION

WAUKESHA MOTOR COMPANY, WAUKESHA, WIS.

Largest Builders of mobile engine-driven Refrigeration and Generator Equipment

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LITERATURE and PAMPHLETS Offered by Railway Age Advertisers

Following is a compilation of free literature and pamphlets and data sheets offered by advertisers in the four September issues of RAILWAY AGE. Circle the item numbers on the card below to receive the additional literature desired.

462. Locomotive Lubrication Chart
The Texas Co. Large detailed diagram of typical steam locomotive; lists 1,051 parts, shows proper Texaco lubricants to use. *Available to railroad personnel, only!*

463. Wrought Iron For Bridges
A. M. Byers Company. Bulletin "Wrought Iron For Bridge Construction" gives helpful information on use of wrought iron ballast deck plates.

464. Circuit Breaker
Westinghouse Electric Corp. The Westinghouse P-1 shockproof Circuit Breakers are described in booklet B-4081.

465. Electric Typewriters
Remington Rand Inc. Folder RE 8354 completely describes the Remington Electriconomy Typewriter.

466. Electrical Equipment for Engines
The Leece-Neville Co. Recent news release announces new 24-page profusely illustrated brochure on the company and its products, including production, assembly, testing and engineering facilities.

467. Waste-Container & Retainer
Hulson Company. New 24-page booklet descrbes the use and illustrates the Hulson Flex-Pak synthetic rubber waste-container and retainer as it fits in standard A.A.R. journal boxes.

468. One-Man Grain Doors
Signode Steel Strapping Company. Pamphlet No. 36 by Signode gives full information about Signode One-Piece One-Man Grain Doors.

469. Mule-Hide Shingle Roofing
The Lehon Company. Samples and full specifications available on the Lehon Mule-Hide Town & Country shingle roof.

470. Traction Motor Support Bearings
Magnus Metal Corp. subs of National Lead Co. Bulletin #6000 pictures and describes the Magnus "High Mileage" traction motor support bearings for all makes and types of Diesel locomotives.

471. Locomotive Cranes
American Hoist & Derrick Co. Literature on American's Diesel and DiesElectric locomotive cranes.

472. Railway Production Tools
Lima-Hamilton Div. Baldwin-Lima-Hamilton. Additional information on the burnishing lathe and the complete line of Niles railway production tools.

473. Refrigeration & Generator Equipt.
Waukesha Motor Company. Bulletin 1597 fully describes the Waukesha L B Enginator System as used in modern passenger cars.

474. Freight Car Truck Springs
American Steel Foundries. Bulletins available on the A-S-F Ride-Control Package—combination load and friction springs.

475. Inductive Train Communication
Union Switch & Signal Div. Westinghouse Air Brake Co. Full particulors on "Union" Inductive Train Communication available.

476. Steel
Bethlehem Steel Co. Catalog No. 259 describes Bethlehem's Mayari R low-alloy, high strength steel.

477. Cross-Over Bridge
Whiting Corp. Details available on the Whiting Triple-Duty Cross-Over Bridge, the maintenance platform with embedded rails.

478. De-Ionizing Systems
Dearborn Chemical Company. Booklet "Dearborn De-Ionizing Systems" contains valuable information about how to secure mineral-free water for Diesel service and other railway applications.

479. Flame-Cleaning
Oxweld Railroad Service Company. Information available on Oxweld methods of flame-cleaning for railroads.

480. Electric Industrial Trucks
Yale & Towne Mfg. Co. Detailed literature illustrates and describes the Yale line of electric industrial trucks.

481. "How YOU Can Make America Strong"
Texas and Pacific Railway Company. Reprints of new series of T & P ads (Sept. 3 RAILWAY AGE) available. Also, reprints of article "The Four Pillars of Freedom—Work, Save, Vote and Pray." *Please specify.*

482. Overhead Sliding Car Door
Richards-Wilcox Mfg. Co. Illustrated folder No. RAF-166 describes the Richards-Wilcox utility all purpose freight car door.

483. Radiography
Eastman Kodak Company. Booklet available on this important function of photography—"Radiography as a Foundry Tool".

(Continued first column reverse side)

Additional Product Information

This is a complete list of products mentioned in the advertisements in this issue. For more data on any product shown, circle the page number on the reply cards below, fill in and mail. *Note:* If the advertiser mentions more than one product, or if more than one ad appears on the page, *write in* the name of the product you are interested in.

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LITERATURE & PAMPHLETS

484. Torque-Control Crane
Orton Crane and Shovel Co. Catalog #83 describes and pictures the Ortan Torque-Control Crane with GM Allison Torque Converter.

485. Fork Lift Trucks
Mobilift Corporation. Complete information available on Mobilift Lev-R-Matic Drive and Tier-Master Stand-Up Model "E" fork lift trucks.

486. Railroad Lanterns
Justrite Manufacturing Co. Free catalog illustrates and describes the Justrite line of lanterns.

487. Rubber-Cushioned Draft Gears
National Malleable and Steel Castings Co. Circular No. 5047 gives data on the Type M-380 Rubber-Cushioned draft gear.

488. Precast Concrete
Permacrete Products Corporation. Information available on Permacrete precast concrete crossing slabs.

489. Chilled Car Wheels
Association of Manufacturers of Chilled Car Wheels. Descriptive booklet "Gentlemen of the Jury" gives data on AMCCWA chilled car wheels.

490. Manganese Steel Railroad Crossings
United States Steel Co. Bulletin "Improved U. S. S. Manganese Steel Railroad Crossings" gives complete story of this newly developed crossing.

491. Aluminum Industrial Corrugated
Reynolds Metals Company. Literature and technical data available on Reynolds "Lifetime" Aluminum Industrial Corrugated.

492. Electric Lantern
Adams & Westlake Company. Complete information on the No. 31 Electric Lantern in Bulletin B-105.

493. Tank Car Cartoon Ad
General American Transportation Corp. Reprints of the cartoon advertising series available for shop use.

494. Mechanical-Pneumatic Decelostat
Westinghouse Air Brake Company. Bulletin DL 2461-1 gives complete information on the Westinghouse AP Mechanical-Pneumatic Decelostat and explains how it stops wheel slides.

495. Locomotive Stokers
Read Standard Corporation. Literature and information on locomotive stokers, automatic spreader type stokers, and Standardaire blowers.

496. Journal Box Lids
Symington-Gould Corporation. Bulletin J-309 describes the Symington composite articulated journal box lids.

497. Ballast Reconditioning Machines
Nordberg Mfg. Co. Bulletin #174 gives full details on: the Cribex, (2) the Ballastex, and (3) the Screenex; three track maintenance machines.

498. Steam Heat Connections
Barco Manufacturing Co. Complete information on Barco steam heat connections for passenger cars, diesel and steam locomotives.

499. Douglas Fir Plywood
Douglas Fir Plywood Association. Complete data available on Douglas fir plywood.

500. Brake Shoe Controller
American Brake Shoe Company. Full information on the American 3 in 1 Brake Shoe Controller.

501. Ballast Cleaner
The Matisa Equipment Corporation. Details on availability of 1951 Cleaner, the ballast cleaner that reaches under the ties.

502. Bolts
Russell, Burdsall & Ward Bolt and Nut Co. Specially prepared report "The Effect of Various Fasteners on the Fatigue Strength of a Structural Joint."

503. Submerged Metal Welding
Oxweld Railroad Service Co. Brochure F-7164 shows Unionmelt welding work done in railroad shops with Oxweld's help.

504. Spring Packing
Spring Packing Corporation. Full information about Spring Packing and its possibilities available.

505. Roller Bearing Journal Boxes
Hyatt Bearings Div. General Motors Corp. Details available on Hyatt freight car roller bearing journal boxes.

506. Asbestos Roofing Materials
Johns-Manville. Details available on both JohnsManville Asbestos Shingle roofing and Asbestos Built-Up roofing. *Please specify.*

507. Hose Clamping Machine
Westinghouse Air Brake Company. Circular Notice No. 1127 introduces, illustrates and describes the new B-1 Hose Clamping Machine for applying Punch-Lok hose clamps.

508. Diesel Engine Air Grille
Farr Company. Complete information on the Far-Air Dynamic Grille.

509. Non-Spin Wheel Hand Brake
Union Asbestos & Rubber Co. Literature available on the Type 3750-A Equipco Non-Spin Wheel Hand Brake.

510. Automatic Smoke Detecting System
C-O-Two Fire Equipment Company. Complete information and descriptive literature on this new contribution to modern fire fighting—the C-O-Two Automatic Smoke Detecting System.

511. Automatic Direct-Fired Heater
Prat-Daniel Corporation. Bulletin of details available on the Thermobloc automatic direct-fired heater for roundhouses, shops and other railroad buildings.

512. Cement Composition Car Flooring
F. E. Schundler Co., Inc. Brochure gives facts about Plastinail, the new oxychloride cement composition producing a nailable car flooring.

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H. Hentz & Co., 60 Beaver st., New York 4.

An Analysis of Illinois Central Railroad. August 27.

Smith, Barney & Co., 14 Wall St., New York 5.

Gulf, Mobile & Ohio Railroad Company. Railroad Bulletin No. 68, September 12.

Railroad Bond Exchange Suggestion. Railroad Bulletin No. 69, September 13.

Railroad Earnings.

Vilas & Hickey, 49 Wall st., New York 5.

Gulf, Mobile and Ohio R.R. August 24.

J. R. Williston & Co., 115 Broadway, New York 6.

Current Position of Railroad Securities. September 6.

RAILWAY OFFICERS

FINANCIAL, LEGAL & ACCOUNTING

Francis A. Grogan has been appointed assistant secretary of the NEW YORK CENTRAL at New York, succeeding **Burton H. Sheffer,** deceased. **James B. Gray** has been appointed commerce assistant in the law department.

William R. Gerstnecker, assistant to the treasurer of the PENNSYLVANIA, has been promoted to assistant treasurer, with headquarters as before at Philadelphia.

OPERATING

R. H. Blassingame has been appointed trainmaster of the TEXAS & PACIFIC, at Alexandria, La. He succeeds **W. R. Swaidner,** transferred.

The SOO LINE has appointed **F. L. Kobliska** as trainmaster of the Stevens Point division, at Ashland, Wis. **R. H. Dablow** succeeds Mr. Kobliska as trainmaster of the Minnesota division at Enderlin, N. D.

Hector F. Howe has been appointed assistant superintendent of the Newfoundland district of the CANADIAN NATIONAL at St. John's, Nfld., succeeding **C. I. Merner,** who has been appointed transportation assistant of that district at St. John's. Mr. Howe was formerly agent at Port-aux-Basques, Nfld.

J. F. Rogers and **W. L. Schutt, Jr.,** acting superintendent and acting trainmaster, respectively, of the Wilmington district of the ATLANTIC COAST LINE at Wilmington, N. C.,

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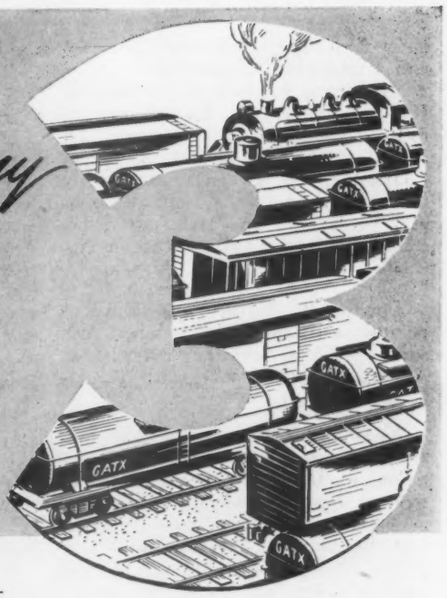

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have been appointed superintendent and trainmaster, respectively.

Mr. Rogers was born on October 15, 1887, at Florence, S. C., and entered railroad service on November 11, 1906, as trainman on the A.C.L. at Charleston, S. C. He subsequently served as conductor, yardmaster, general yardmaster and trainmaster, becoming acting superintendent on November 16, 1950.

Connis R. Jeffers has been appointed assistant superintendent car service of the SOUTHERN SYSTEM at Atlanta, Ga., succeeding **John W. Allison,** deceased.

Karl L. Metzman, assistant general superintendent freight transportation of the NEW YORK CENTRAL SYSTEM, has been appointed assistant manager of freight transportation, with headquarters as before at New York. **Charles E. Black,** general superintendent passenger transportation, has been appointed assistant manager of passenger transportation, with headquarters remaining at New York.

TRAFFIC

George C. Bauer, general coal freight agent of the BALTIMORE & OHIO at Cleveland, has been named coal traffic manager at Baltimore, succeeding **Clark M. Groninger,** whose death was reported in *Railway Age* August 27, page 66.

William A. Hillman has been appointed acting general agent, freight department, of the NEW YORK CENTRAL SYSTEM at Davenport, Iowa.

Robert C. Cotner, assistant general freight and passenger agent of the SOUTHERN at Spartanburg, S. C., will retire on October 1, after more than 51 years of service with that system.

Richard M. Hurst, commercial agent of the LITCHFIELD & MADISON at Milwaukee, has been promoted to general agent at Appleton, Wis., coincident with the opening of a new L.&M. traffic office in Room 208 of the Irving Zuelke building. **C. Patrick Brown,** commercial agent at Detroit, has been promoted to general agent at Pittsburgh, coincident with the opening of a new traffic office in Room 2806 of the Koppers building.

MECHANICAL

H. W. Gladhill has been appointed assistant master mechanic of the Hagerstown division of the WESTERN MARYLAND at Hagerstown, Md., succeeding **W. P. Gilford,** promoted.

H. W. Allmand, division master mechanic of the Smiths Falls division of the CANADIAN PACIFIC at Smiths Falls, Ont., has been transferred to the Laurentian division at Montreal, succeeding **R. Christie,** who replaces Mr. Allmand at Smiths Falls.

PURCHASES & STORES

D. E. Frank, works storekeeper at the Altoona shops of the PENNSYLVANIA has been promoted to stores manager of the entire system at Philadelphia, succeeding the late **Walter L. Oswalt,** whose death was reported in *Railway Age* August 27.

SPECIAL

Clarence R. Dugan, manager of public relations of the NEW YORK CENTRAL SYSTEM, will retire on September 30, after 50 years of service with the road at New York. He will be succeeded on October 1 by **Raymond F. Blosser,** who has been manager of the press bureau for the past four years. **James R. Brugger,** editor of the company magazine, "Headlight," has been named to the new position of director of publications. Mr. Brugger will be succeeded by **Norman M. Stone,** a member of the department for the past six years. **Cecil G. Muldoon, Jr.,** public relations representative at Cleveland, has been appointed to the new position of director, news bureau. Mr. Muldoon will be succeeded at Cleveland by **Richard C. Marshall,** of the Cincinnati (Ohio) Enquirer.

Mr. Dugan, whose photograph appears on page 8, was born at Springfield, Ohio, on August 7, 1886, and joined the Central as a stenographer on September 1, 1901. Before becoming manager of public relations in March 1939 he had been assistant to vice-president and general counsel and assistant to vice-president—finance and corporate relations. He also served as president of the Securities Corporation of the N.Y.C. and is president of the Clearfield (Pa.) Supply Company, a Central subsidiary.

OBITUARY

Burton H. Sheffer, assistant secretary of the NEW YORK CENTRAL at New York, died recently.

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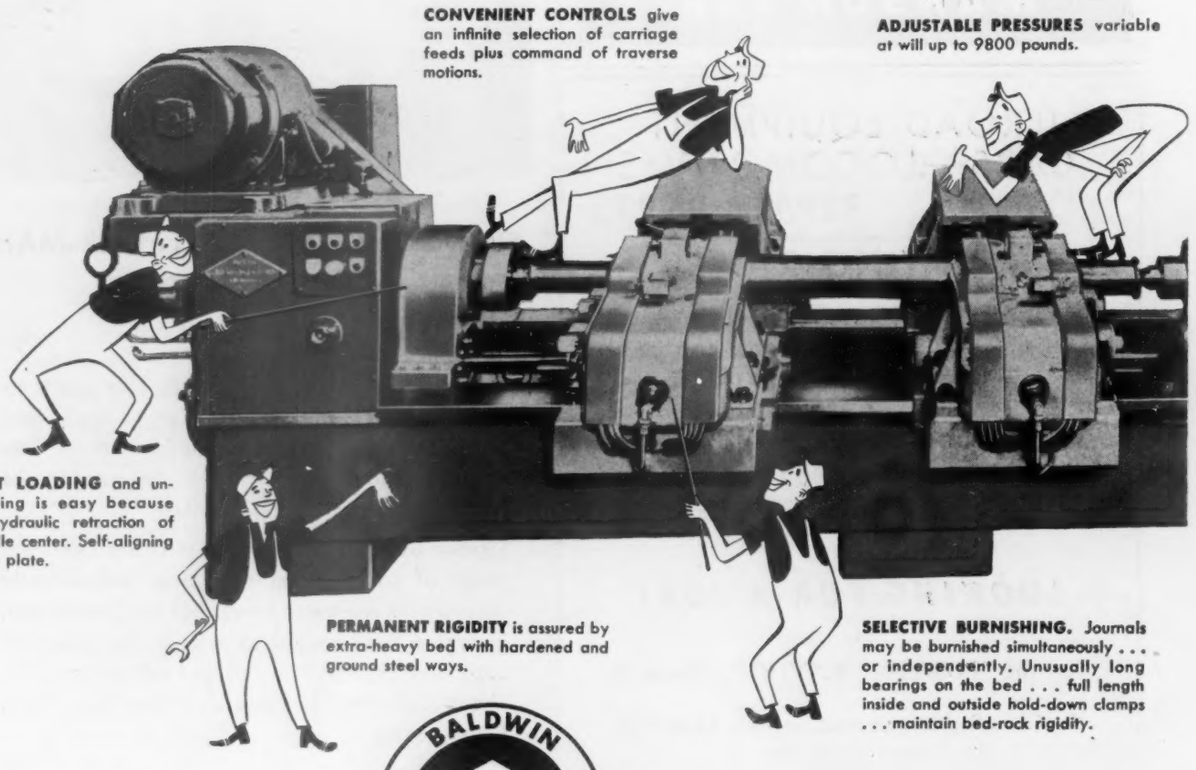

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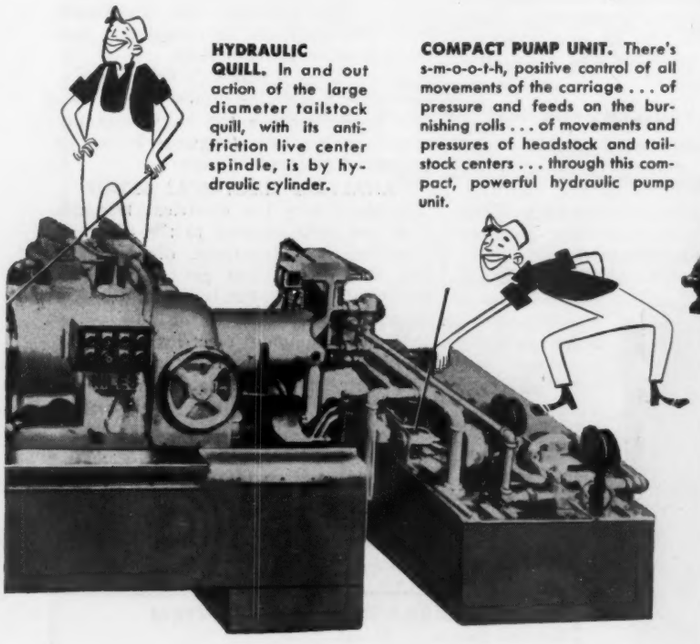

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COMPACT PUMP UNIT. There's s-m-o-o-t-h, positive control of all movements of the carriage . . . of pressure and feeds on the burnishing rolls . . . of movements and pressures of headstock and tailstock centers . . . through this compact, powerful hydraulic pump unit.

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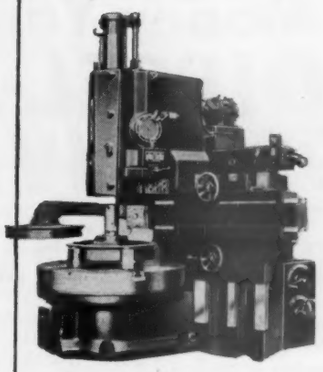

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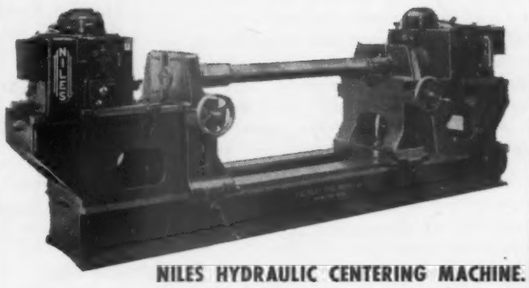

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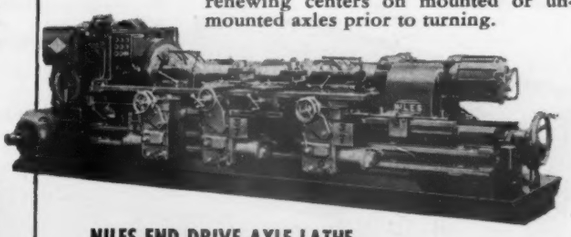

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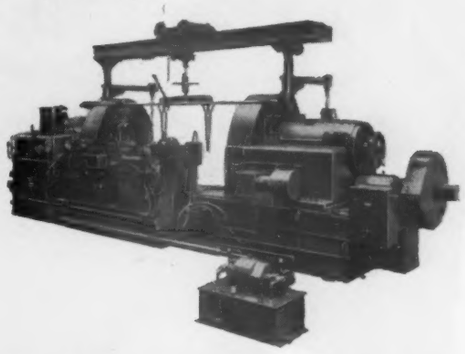

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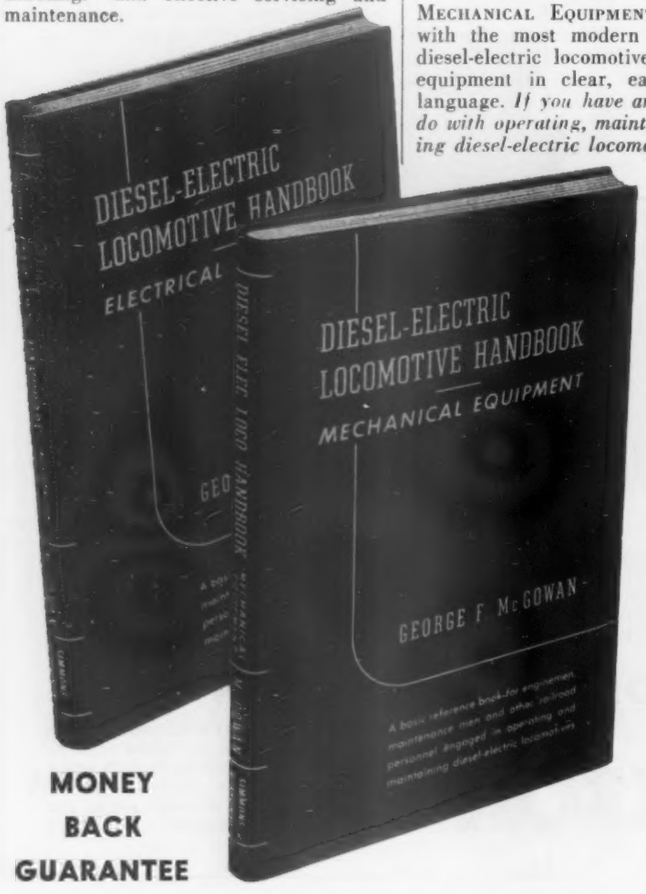

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